

a as defined in Tables 2-4, wherein said agent induces an immune response in said patient to a polypeptide having a sequence comprising SEQ. ID NO:162.

Please add the following new claims:

a<sup>2</sup> --21. (New) The method of claim 20, wherein the agent is a protein or polypeptide formulated as a vaccine which comprises one or more additional components selected from excipients, diluents, adjuvants or the like.--

a --22. (New) The method of claim 20 comprising administering a vaccine composition comprising one or more nucleic acid sequences encoding the amino acid sequence of SEQ ID NO:162 for prophylaxis or therapy of *S. pneumoniae* infection.--

IN THE SPECIFICATION:

Please delete the second full paragraph located on page 1, and replace therewith the following replacement paragraphs. A marked-up version showing changes made to the replacement paragraphs is contained herewith as Appendix B.

**--Background of the Invention**

3 a *Streptococcus pneumoniae*, commonly referred to as the pneumococcus, is an important pathogenic organism. The continuing significance of *Streptococcus pneumoniae* infections in relation to human disease in developing and developed countries has been authoritatively reviewed (Fiber, G.R., Science, **265**:1385-1387 (1994)). That indicates that on a global scale this organism is believed to be the most common bacterial cause of acute respiratory infections, and is estimated to result in 1 million childhood deaths each year, mostly in developing countries (Stansfield, S.K., *Pediatr. Infect. Dis.*, **6**:622 (1987)). In the USA it has been suggested (Breiman *et al*, *Arch. Intern. Med.*, **150**:1401 (1990)) that the pneumococcus is still the most common cause of bacterial pneumoniae, and that disease rates are particularly high in young children, in the elderly, and in patients with predisposing conditions such as asplenia, heart, lung, and kidney disease, diabetes, alcoholism, or with immunosuppressive disorders, especially AIDS. These groups are at higher risk of pneumococcal septicaemia and hence meningitis and therefore have a greater risk of dying from pneumococcal infection.

<sup>3</sup> The pneumococcus is also the leading cause of otitis media and sinusitis, which remain prevalent infections in children in developed countries, and which incur substantial costs.--

Please delete the second full paragraph located on page 3, and replace therewith the following replacement paragraphs. A marked-up version showing changes made to the replacement paragraphs is contained herewith as Appendix B.

### ***--Brief Summary of the Invention***

<sup>4</sup> Thus, in a first aspect the present invention provides a Streptococcus pneumoniae protein or polypeptide having a sequence selected from those shown in Table 2 herein.--

Please delete the last paragraph located on page 3 extending to page 4, and replace therewith the following replacement paragraphs. A marked-up version showing changes made to the replacement paragraphs is contained herewith as Appendix B.

### ***--Detailed Description of the Invention***

<sup>5</sup> As discussed herein, the proteins and polypeptides of the invention are useful as antigenic material. Such material can be "antigenic" and/or "immunogenic". Generally, "antigenic" is taken to mean that the protein or polypeptide is capable of being used to raise antibodies or indeed is capable of inducing an antibody response in a subject. "Immunogenic" is taken to mean that the protein or polypeptide is capable of eliciting a protective immune response in a subject. Thus, in the latter case, the protein or polypeptide may be capable of not only generating an antibody response and in addition non-antibody based immune responses.--

Please delete the paragraphs starting at page 29, 1<sup>st</sup> full paragraph (immediately below the heading "Table 1") and extending to and including the last full paragraph located on page 100, and replace therewith the following replacement paragraphs. A marked-up version showing changes made to the replacement paragraphs is contained herewith as Appendix B.

--4101.1 (SEQ. ID. NO. 208)

<sup>6</sup> ATGGAAGAGTTAGTGACCTTAGATTGTTTATTGACAGAACTAAGATTGAAGCCAATGCCAACAAAGTATAGTTTTGTGTG  
GAAGAAAACGACAGAGAAATCTCCGCCAACTTCAAGAACAGATACAGGTCTATTTCAAGAAGAAATCACTCCCCTTCTG  
ATTAAATATGCCATGTTTGATAAGAAACAAAAGAGAGGGTATAAAGAGTCAGCTAAAACTTAGCGAATTGGCACTATAAT  
JACAAGGAGGATAGCTACACACATCCTGATGGCTGGTATTATCGTTTTCAACATACCAAATATCAGAAAACACAGACAGACT  
TTCAACAAGAAATCAAGGTTTACTACGCCGACGAACCTGAATCAGCCCCTCAAAAGGGACTGTATATGAACGAACGCTATCA  
AAACTTGAAAGCTAAAGAATGTCAGGCGCTTTTATCTCCCCAAGGTAGACAGATTTTCGCTCAACGCAAGATTGATGTGGAA  
CCTGTCTTTGGGCAGATAAAGGCTTCTTTGGGTTACAAGAGATGTAATCTGAGAGGGAAGCGTCAAGTGAGAATTGACATGG  
GATTGGTACTTATGGCCAATAACCTCCTAAAAATATAGTAAATGAAATAA

4101.3 (SEQ. ID. NO. 209)

ATGGGGAAGGCCATTGGAATCGGAAAAGAGTTTATAGCATTCGTAAGTTTGCTGTGGGAGCTTGCTCAGTAATGATTGGGA  
CTTGTGCAGTTTATTAGGAGGAAATATAGCTGGAGAATCTGTAGTTTATGCGGATGAAACACTTATTACTCATACTGCTGAG  
AAACCTAAAGAGGAAAAATGATAGTAGAAGAAAAGGCTGTATAAAGCTTTGGAACTAAAAATATAGTTGAAAGGACAGA  
ACAAAGTGAACCTAGTTCAACTGAGGCTATTGCATCTGAGAAGAAAGAAGATGAAGCCGTAACCTCAAAAAGAGGAAAAAGT  
GTCTGCTAAACCGGAAGAAAAAGCTCCAAGGATAGAATCACAAGCTTCAAATCAAGAAAAACCGCTCAAGGAAGATGCTAA  
AGCTGTAACAAATGAAGAAGTGAATCAAAATGATGAAGACAGGAAGTGGATTTTAATCAAAATGGTACTTTAAACTCAAT  
GCAAAATTCTAAGGAAGCCATTAAACCTGATGCAGACGTATCTACGTGGAAAAAATTAGATTACCGTATGACTGGAGTATCT  
TTAACGATTTTCATCATGAATCTCTGACAAAAATGAAGGTGGACAGCTCAACGGTGGGGAAGCTTGGTATCGCAAGACTTT  
CAAACATAGATGAAAAAGACCTCAAGAAAAATGTTGCGCTTACTTTTGATGGCGTCTACATGGATTCTCAAGTTTATGTCAATG  
GTCAGTTAGTGGGGCATTATCCAAATGGTTATAACCAAGTTCTCATATGATATACCAAAATACCTTCAAAAAGATGGTCTGTA  
GAATGTGATTGCTGTCCATGCAGTCAACAAACAGCCAAAGTAGCCGTTGGTATTACAGGAAGTGGTATCTATCGTGATGTGACT  
TTACAAGTGACAGATAAGGTGCATGTTGAGAAAAATGGGACAACATTTTAACACCAAAACCTTGAAGAACAAACAACATGGC  
AAGGTTGAAACTCATGTGACCAAGCAAAATCGTCAATACGGACGACAAAGACCATGAACTTGTAGCCGAATATCAAAATCGTGT  
AACGGTGGTGGTCTGTAAACAGGCTTAGTTCTGACAGCGATGCTACCTTAAAGCACATGAATGAATCAACAAGCTAGATGC  
GATTTTGAAGTTGAAAGACCAAACTCTGGACTGTTTTAAATGACAAACCTGCCTGTACGAATTGATTACGCGTGTTCACC  
GTGACCGTCAATTGGTTGATGCTAAGAAGGATTGTTTGGTTACCGTACTATCACTGGACTCCAAATGAAGGTTTTCTCTTTG  
AATGGTGAACGTATTAATTTCCATGGAGTATCCTTGACCAACGACCATGGGCGCTTGGAGCAGAAGAAAAATCAAAAGCA  
GAATATCGCCGTCTCAACAAATGAAGGAGATGGGAGTTAACTCCATCCGTACAACCCACAACCCCTGCTAGTGAGCAACCT  
TGCAAAATCGCAGCAGAACTAGGTTTACTCGTTACAGGAAGAGGCTTTGATACGTGGTATGGTGGCAAGAAACCTTATGACTA  
TGGACGTTTTCTTTGAAAAAGATGCCACTCACCCAGAAGCTCGAAAGGTGAAAAATGGTCTGATTTTGACCTACGTACCATG  
GTGCAAGAGGCAAAAACCAACCCCTGCTATCTTCATGATGAGCAATTTGATGAATGAATAGGTGAAGCTAATGGTGTGCCACT  
CTTTAGCAACTGTTAAACGTTTGGTTAAGGTTATCAAGGATGTTGATAAGACTCGCTATGTTACCATGGGAGCAGATAAATTC  
CGTTTCGGTAATGGTAGCGGAGGGCATGAGAAAAATGCTGATGAACCTGATGCTGTTGGATTAACTATTCGAAGATAATT  
ACAAAGCCCTTAGAGCTAAGCATCCAAAAATGGTTGATTTATGGATCAGAAACATCTTCAGTACCCGTAACGTTGAAGTTA  
CTATCGCCCTGAACGTTGAATTGAACATAGCAATGACCTGAGCGTAATTATGAACAGTCAGATTATGGAATGATCGTGTG  
GGTTGGGGGAAACAGCAACCGCTTCATGGACTTTGACCGTGACAACGCTGGCTATGCTGGACAGTTTATCTGGACAGGTA  
CGGACTATATTGGTGAACCTACACCATGGCACAACCAAAATCAAACTCCTGTTAAGAGCTCTTACTTTGGTATCGTAGATACA  
GCCGGCATTTCCAAAACATGACTTCTATCTCTACCAAGCCAATGGGTTTCTGTTAAGAAGAAACCGGATGGTACACCTTCTCC  
TCACTGGAACCTGGGAAAACAAAGAAATTAGCATCCAAAGTAGCTGACTCAGAAGGTAAGATTCCAGTTCGTGCTTATTCGAAT  
GCTTCTAGTGTAGAAATTGTTCTTGAATGGAAAAATCTCTTGGTCTTAAAGACTTTCAATAAAAAACAAACCGCATGGGCGGA  
CTTACCAAGAGGTGCAATGCTAATGAACCTTATCTTGAATGGAAAGTTCCTATCAACAGGTACCTTGGAAAGCAATTGC  
TCGTGATGAATCTGGCAAGGAAATGCTCGAGATAAGCAATTACGATGCTGGTAAGCCAGCGGCAGTTCTGCTTTAAGGAA  
GACCATGCGATTGCAGCAGATGGAAAAGACTTGACTTACATCTACTATGAAATTGTTGACAGCCAGGGGAATGTGGTTCCAA  
CTGCTAATAATCTGGTTCCGTTCCAAATGCAATGGCCAAAGTCAACTGGTCCGTGTAGATAACGGGAGAACAGCCAGCCGTGA  
ACGCTATAAGGCGCAAGCAGATGGTTCTTGGATTTCGTAAGCAATTTAATGGTAAAGGTGTTGCCATTGTCAAATCAACTGAA  
CAAGCAGGGAAATTCACCCTGACTGCCACTCTGATCTCTTGAATCGAACCAAGTCACTGTCTTTACTGGTAAGAAAGAAG  
GACAAGAGAAGACTGTTTTGGGGACAGAAAGTGCCAAAAGTACAGACCATATTGGAGAGGCACTGAAATGCCTACCACTG  
TTCCGTTTGTATACAGTGTAGGTTAGCCGTGACAGAGTGAAGTCTGTAACCTGGTCTTCACTAGATGTGAGCAAGCTGTATTGT  
ACCGTGAAAGGTATGGCTGACGAGTGAAGTGAAGTCTGTTGAGTGAAGTGTGCTCTTAAATCAGAGCTACCAGTTGTG  
AAACGTATTGCTCCAAATACTGACTTGAATCTGTAGACAAATCTGTTTCTATGTTTGTATGATGGAAGTGTGAAGAGTA  
TGAAGTGGACAAGTGGGAGATTGGCGAAGAAAGATAAAGCTAAGTTAGCAATTCAGGTTCTCGTATTCAGCGACCGGTTAT  
TTAGAAGGTCAACCAATTCATGCAACCTTGTGGTGAAGAAGGAATCCCTGCGGCACCTGCAGTACCAATGCAACCGTTG  
GTGGTGAGGCAGTAACAGGTCTTACTAGTCAAAAACCAATGCAATACCGCACTCTTGTCTTATGGAGCTAAGTTGCCAGAA  
CACAGCAAGTGCTAAAAATGCAAGCTGTTACAGTCTTCAAGCAAGCGCAGCAAAACCGCATGCGTGGCAGCATCTTTTATTCAG  
CCTAAAGATGGTGGCCCTCTTCAAACCTATGCAATTCATTCCTTGAAGAAGCGCCAAAAATTGCTCACTGAGCTTGAAGT  
GGAAAAAGCTGACAGTCTCAAAGAAAGCAAACTGTCAAATTTGCTGGTTCGAGTCACTATCAAGATGGAACGCAAGCTGT  
ATTACAGCTGATAAAGTAACCTTCTCTACAAGTGGTGAAGGGGAAGTCCGAATTCGTAAAGGAATGCTTGAGTTGCATAAG  
CCAGGAGCAGTCACTCTGAACCGTGAATATGAGGGAGCTAAAGACCAAGTTGAACCTCACTATCCAAGCCAATACTGAGAAG  
AAGATTGCGCAATCCATCCGTCCTGTAATGTAGTGACAGTATGCAATCAGGAACCAAGTCTCCAGCAACAGTAAGCTTG  
AGTATGACAAAAGGTTTCCCTAAAACTCATAAAGTCACTTGGCAAGCTATTCGAAAGAAAAACTAGACTCCTATCAACATT  
TGAAGTACTAGGTAAAGTTGAAGGAATTGACCTTGAAGCGCGTGCAAAAGTCTCTGTAGAAGGTATCGTTTCAAGTTGAAGAA  
GTCAGTGTGACAACCTCAATCGCAGAAGCACCACAATTACCAAGAAAGTGTTCGGACATATGATTCAAAATGGTCAAGTTTCA  
GCTAAGGTTGATGGGATGCGATTGCTCCAGAGCAATACGCTAAGGAAGGTGCTTTACAGTTAATGGTGGCTTAGAAGG  
TACGCAATTAACAATAAATTCATGTTGCGGTATCTGCTCAAACTGAGCAAGGTGCAAACTTTCTGACCAATGGACCGGTT  
CAGAATTGGCACTTGCTTTGCTTCAAGCTCAAAATCCAAGCGACCCAGTTTCAAAATGTTAATGACAAGCTGATTTCCTACAAT  
AACCAACCGCAATCGTTGGACAAAACCTGGAATCGTACTAATCCAGAAGCTTCAGTCCGTTGCTGTTGAGAGATTACAGGTA  
TCTTGAGCAAAACGCTCCGTTGATAATCTAAGTGTGCGATTCCATGAAGACCATGGAGTTGGTGTACCGAAGTCTTATGTGATT  
GAGTATTATGTTGGTAAGACTGTCCCAACAGCTCCTAAAAACCCCTAGTTTGTGGTGAATGAGGACCATGCTTTAATGATTCT  
TGCCAACTGGAACAGCTTACTAATCTAAAAGCCCTGCTCAACTCAAGGCTGGAGAAATGAACCACTTTAGCTTTGATAAA  
GTTGAAAACCTATGCTGTTGCTATTCGATGGTTAAAGCAGATAACAAGCGTGGAACGCTATCAACAGAGGTACAAATCTTTG  
CGAAACAAGTTGCGGCAGCCAAGCAAGGACAAACAAGAATCCAAGTTGACGGCAAAAGACTTAGCAAACTTCAACCCGTGATT  
TGACAGACTACTACCTTGAGTCTGTAGATGGAAGATTCCGGCAGTACAGCAAGTGTAGCAACAAATGGTCTCGCTACCGT  
CGTTCCAAGCGTTCTGTAAGGTGAGCCAGTTCGTGATCTCGCAAGGCTGAAAAATGGCGACATCTTAGGAGTAACCCGTCTG  
CACITCACTAAGGATAAGAGCTTACTTTCTCATAAACCAAGTTGCTGCGGTTAAACAAGCTCGCTTGTACAAGTAGGTCAAGC  
ACTTGAATTGCGGACTAAGGTTCCAGTTTACTTCAAGGTAAAGACGGCTACGAAACAAAAGACCTGACAGTTGAATGGGAA  
GAAGTTCCAGCGGAAAACTGACAAAAGCAGGTCAATTTACTGTTTCGAGGCCGTGTCCTTGGTAGTAACCTTTGCTGAGA  
TCAGTGTACGAGTACAGACAAAACCTGGTGAGACTTTTTCAGTAACCTTAACCTATGATGAAACAGTAACCAAGCCGCTTTCG  
TTCAGCAACCAATGATATTGACAAAACCTCTCATGACCGCGTTGACTATCTCAATGACGGAGATCATTACAGAAATCGTCGT  
TGGACAAACTGGTCAACCAACCATCTTCTAATCCAGAAGTATCAGCGGTTGTGATTTCCGTGAAAAATGGTAAGATTGTAG  
AACGGACTGTTACACAAGGAAAAAGTTCAAGTTTTCAGATAGTGGTACCGATGCACCATCTAAACTCGTTTGAACGCTA  
TGTCCGTTCCAGATTGTAAGTGGCAACCTACTATTGCAAACTACCAAGCTACGACGACAGCATCCATTCAACAATCCAGAA  
AATTGGGAAGCTGTTCTTATCGTGGGATAAAGACATTGCAGCTGGTGTGAAATCAACGTAACATTTAAGCTATCAAG  
CCAAAGCTATGAGATGGCGTATGGAGCGTAAAGCAGATAAGAGCGGTGTTGCGATGATTGAGATGACCTTCCTTGACCAAG

TGAATTGCCTCAAGAAAGCACTCAATCAAAGATTCTTGTAGATGGAAAAGAACTTGCTGATTCGCTGAAAAATCGTCAAGAC  
TATCAAAATTACCTATAAAGGTCAACGGCCAAAAGTCTCAGTTGAAGAAAAACAATCAAGTAGCTTCAACTGTGGTAGATAGTG  
GAGAAGATAGCTTTCAGTACTTGTTCGCTCGTTTCAGAAAAGTGGAAAACAAGTCAAGGAATACCGTATCCACTTGACTAA  
GGAA  
AAACCAGTTTCTGAGAAGACAGTTGCTGCTGTACAAGAAGATCTTCCAAAAATCGAATTTGTTGAAAAAGATTGGCATA  
AGACAGTTGAGAAAAAGATTCAACACTGTATCTAGGTGAAACTCGTGTAGAACAAGAAGGAAAAAGTTGGAAAAAGAACGTA  
TCTTTACAGCGATTAACTCTGATGGAAGTAAGGAAGAAAAACTCCGTGAAGTGGTAGAAGTCCGACAGACCGCATCGTCTT  
GGTTGGAACCAACCAGTAGCTCAAGAAGCTAAAAAACCACAAGTGTGAGAAAAAGCAGATACAAAACCAATTGATTCAGG  
TGAAGCTAGTCAAACATAAAGGCCAGTTACCAAGTACAGGTAGTGCGGCAAGCCAAGCAGTAGCAGCAGGTTTAACT  
TCTTCTAGGTTTGAGTGCAGGATTAGTAGTTACTAAAGGTAAAAAAGAAGACTAG

4101.5 (SEQ. ID. NO. 210)

ATGGATGCAATCTTTGACCTAATCGGAAAGGTTTCAATCCCATCTTAGAAATGGGTGGACCTGTCATCATGTTAATCATTTT  
GACAGTATTGGCTTACTTTTGGAGTGAAATTTCCAAAGCGCTTGAAGGTGGTATCAAACTTGCCATCGCTCTTACAGGTA  
TCGGTGCTATCATCGGTATGCTAAACACTGCTTTCTCAGCATCACTAGCAAAAATTCGTTGAAAAACTGGTATCCAATTGAGT  
ATTACCGACGTTGGTTGGGCACCACCTGCTACAATCACTTGGGGTCTGCTTGGACACTATACTTCTTGCTCATCATGTTGATT  
GTCAACATAGTGATGCTAGCTATGAAGAAAACAGATACACTTGATGTCGATATCTTTGATATCTGGCACTTGTCTATCACAGG  
TCTCTTGATTAAATGGTATGCTGATAACAATGGTGTGAGTCAAGGGGTTTCACTCTTTATTGCTACAGCAGCTATCGTCTTGT  
CGGTGTGTTGAAAAATTACAACCTGACTTGATGAAACCTACATTTGATGACCTTCTTAACGCCCAAGTTCATCACTCAATGA  
CATCAACTCACATGAACACTACATGATGAACCCAGTTATCATGGTTTTGGATAAGATTTTGA AAAATTTCTCCAGGCCTTGAT  
AAATATGACTTTGATGCTGCTAAATTTGAACAAGAAAACTCGGTTTCTGGGGATCTAAATTTCTTATCGGTTTCTCCTTGGTAT  
CGTTATCGGTATTATGGGAACCTCCACATCCAATTGCAGGTGTTGCAGATGCAGATAAATGGCGTCTTGTTATCAAAAGGATGGT  
TGCTCTTGGTTTGACTGCGGTGATCTTTGGAACCTTCTCACTTATCGGTTTATGGTTCATCGCAGCCGTAGAACCCTAT  
CACAAGGTATTACAAACGTTGCTACTAAACGCTTCAAGGACGTAAATTCATATCGGTCTTGACTGGCCATTCATCGCTGGT  
CGTGCTGAAATCTGGGCTTGTCGCAACGTAATTCACCAATCATGTTGATTGAAGCAGTGCTTCTTTCAAAAGTTGGAAATGG  
TATCTTGCCACTTGCAGGTATCATCGCTATGGGTGTTACTCCAGCTCTCTTGGTTGTAACCTCGTGGTAAATTTGCTCCGTATGAT  
TATCTTCCGAACACTCTTGTGGCACTCTTCTTCTTTCAGGTACACTTATTGCACCAATTTGCAACAGAACTTGCTAAAGGTGT  
AGGTGCTTCCAGAAAGGTGTGAGCCAACTCAATTGATTACTCACTCTACTCTTGAAGGACCAATCGAAAACTTCTTGGTT  
GGACAATTGGTAACACTACAACCTGGTGATATCAAAGCAATCCTTGGTGCAAGTCTTCTTGTATTCTATATCGGTATCTTT  
GCTTGGTACAGAAAACAATGATCAAACGTAACGAAGAGTACGCAGCAAAAAGCAAAATAA

4102.1 (SEQ. ID. NO. 211)

ATGAAGATTATGAAAAAAAATATTGGACTTTAGCGATATTATCTTTTGTGTTTCAATAATTCTGTTACTGCTCAAGAAAT  
ACCTAAAAATCTTGATGGCAATATAACTCACACTCAGACTAGCGAAAGTTTTTCTGAATCTGATGAAAAACAGGTTGACTAT  
TCTAATAAAAAATCAAGAAGAAGTAGACCAAAAATAAATTTTCGTATTCAAATCGATAAGACAGAATTATTTGTAACAACAGATA  
AACATTTAGAAAAAACTGTTGTAATTTGGAACCTGAACCAAAATAAATAACGATATTGTTAACTCTGAAAGTAATAATTT  
ACTAGCGGAAGATAATTTAGATAATAAAAATTAAGGAAAAATGTTTCTCATCTAGATAAATAGAGGAGGAAATATAGAGCATGA  
CAAAGATAAAGTGAATCGTCGATTGTAAGAAAATATGAATGGGATATAGATAAAGTTACTGGTGGAGGCGAAAGTTATAA  
ATTAATTTCTAAAGTAATTTCTAAAGTTTCAATTTGCTATTTTAGATTTCAGGAGTGCATTTACAAAAATCTGGATTACTGAAAA  
ATCTTTCAAGATCACTCAAAAACTATGTCGCCCAATAAAGGATATTAGGAAAAAGAGGAGGAGAGGAAATTAATATCAG  
ATATTCAAGATAGATTAGGTCATGGTACGGCTGTTGTAGCTCAAATTTGAGGGGATGACAATATTAATGGAGTAAATCCTCA  
CGTTAATATTAACGCTATAGAATATTTGGTAAGTCGTCAGCTAGTCCAGATTGGATTGTAAGCAATTTTGTATGCTGTAG  
ATGATGGCAATGATATTATCAATCTTAGTACTGGACAATATTAATGATTGATGGAGAATATGAGGACGGAACAAATGATT  
TGAAACATTTTGAAGTATAAAAAGGCTATTGATTACGCGAATCAAAAAGGAGTAATTATAGTAGCTTGCTATTAGGGAATGAC  
TCCCTAAATGTATCAAATCAGTCAGATTATTGAACTTATTAGTTCACGCAAAAAAGTAAGAAAACCAGGATTAGTAGTTG  
ATGTTCCAAGTTATTTCTCATCTACAATTTGGTTCGGAGGCATAGATCGCTTAG  
GTAATTTACAGATTGTTAGCAATAAAGGGGATTCTGATGCAATATATGCGCCTGCAGGCTCAACATTATCTCTTTCAGAATTA  
GGACTTAATAACTTTATTAATGCAGAAAAATATAAAGAAGATTGGATTTTTTCGGCAACACTAGGAGGATATACGTATCTTT  
ATGGAAGCTCAATTGCTGCTCCTAAAGTTTCTGGTGCGATTGCAATGATTATTGATAAATACAAATTTAAAGATCAGCCCTAT  
AATTATATGTTTGTAAAAAAATTTCTGGAAGAAACATTACCAGTAA

4106.1 (SEQ. ID. NO. 212)

ATGAAGAAAAACATGGAAAGTGTTTTAAACGCTTGTAAACAGCTCTTGTAGCTGTTGTGCTTGTGGCCTGTGGTCAAGGAAGTGC  
TTCTAAGACAACAAGAGGAGGAGAACTTAAGAAGTTGACTTTATCTAGACTGGACACCAAAATACCAACCACAGGGCTT  
TATGTTGCCAAGGAAAAAGGTTATTTCAAAGAAGCTGGAGTGGATGTTGATTGAAATTTGCCACCAGAAGAAAGTTCTTCTG  
ACTTGGTTATCAACGGAAGGCAACATTTGCAGTGATTTCCAGACTACATGGCTAAGAAATTTGAAAAAGGAGCAGGAAT  
CACTGCCGTTGCAGCTATTGTTGAACACAATACATCAGGAATCATCTCTCGTAAATCTGATAATGTAAGCAGTCCAAAAAGAC  
TTGGTTGGTAAGAAATATGGGACATGGAAATGACCAACTGAACTTGCTATGTTGAAAAACCTTGGTGAATCTCAAGGTGGAG  
ACTTTGAGAAGGTTGAAAAAGTACCAATAACGACTCAAACCTCAATCACACCGATTGCCAATGGCGTCTTTGATACTGCTTG  
GATTACTACGGTTGGGATGGTATCTTTGCTAAATCTCAAGGTGTAGATGCTAACTTCATGTACTTTGAAAGACTATGTCGAAGG  
AGTTTGACTACTATTCACAGGTTATCATCAGCAACAACGACTATCTGAAAGATAACAAAGAAGAAGCTCGCAAAAGTCATCCA  
AGCCATCAAAAAAGGCTACCAATATGCCATGGAACATCCAGAAGAAGCTGCAGATATTCTCATCAAGAAATGCACCTGAACCTC  
AAGGAAAAACGTGACTTTGTCATCGAATCTCAAAAATCTTGTCAAAAAGAAATACGCAAGCGACAAGGAAAAATGGGGTCAA  
TTTGACGCAGCTCGCTGGAATGCTTTCTACAAATGGGATAAAGAAAATGGTATCCTTAAAGAAGACTTGACAGACAAAGGCT  
TCACCAACGAATTTGTGAAATAA

4106.4 (SEQ. ID. NO. 213)

ATGATAAAAAATCCTAAATTATTAACCAAGTCTTTTTTAAAGAAGTTTGTCAATTCTAGGTGGTGTGGTCTAGTCATTATCATAT  
AGCTATTTATTTGACCTTTTCTTTTATTTATTTCAACTGGAGGGGAAAAAGTTTAAATGAGAGCGCAAGAGTGTTCACGGAGT  
ATTTAAAGACTAAGACATCTGATGAAATTTCAAAGCTTACTCCAGTCTTATTTCAAAGTCCCTTGACCATATCTGCTCACCTTAAA  
AGAGATATTGTAGATAAGCGGCTCCCTCTTGTGCTGACTTGGATATTAAGATGGAAGCTATCAAAATATATCGTGATGTT  
AGATATGTCTGTTAGTACAGCAGATGGTAACAGGTAAACCGTGCAATTTGTTTACGGGGTGGATGTCTACATAAAGAAGCAAGG  
AATAATTTTGTCTTTGTATCTCCCATATACATTTTGGTTACAATTTGCTTTTCTTTTCTTTTCTTTTATTTTATACTAAACGCTT  
GCTCAATCCTCTTTTACATTTTCAGAAGTGACTAGTAAAATGCAAGATTGATGACAATATTCGTTTGTGATGAAAGTAGGA

AAGATGAAGTTGGTGAAGTTGGAAAAACAGATTAATGGTATGTATGAGCACTTGTGAAGGTTATTTATGAGTTGAAAAAGTCG  
TAATGAGCAAAATTGTAATAATTGCAAAATCAAAAGGTTTCCTTTGTCCGCGGAGCATCACATGAGTTGAAAACCCCTTTAGCC  
AGTCTTAGAATTATCTAGAGAATATGCAGCATAATATTGGAGATTACAAAGATCATCCAAAATATATTGCAAGAGATATAA  
ATAAGATTGACCAGATGAGCCACTTATTAGAAGAAGTACTGGAGTCTTCTAAATTCCAAGAGTGGACAGAGTGTCTGAGAC  
CTTGACTGTTAAGCCAGTTTATGATAGATATTTATCACGTTATCAAGAATTAGCTCATTCAATAGGTGTTACAATTGAAAAATC  
AATTGACAGATGCTACCAGGTCGTCATGAGTCTTAGGGCATTGGATAAGGTTTTGACAAACCTGATTAGTAATGCAATTAA  
ATATTGAGATAAAAAATGGGCGTGTAAATCATATCCGAGCAAGATGGCTATCTCTATCAAAAAATACATGTGCGCCTCTAAGT  
GACCAAGAACTAGAACATTTATTGATATATCTATCTCAAAATCGTGACAGATAAGGATGAAAGTCCGGTTTGGGTCT  
TTACATTGTGAATAATTTTAGAAAGCTATCAAAATGGATTATAGTTTTCTCCCTTATGAACACGGTATGGAATTTAAGATTA  
GCTTGTAG

4106.6 (SEQ. ID. NO. 214)

ATGTATTTAGGAGATTGATGGAGAAAGCCGAGTGTGGTCAATTTTCAATACTTTCTTTCTATTACAAGAGTCTCAGACGAC  
CGTCAAGGCTGTAATGGAAGAAACAGGATTTTCAAAAGCAACCTTAACCAAAATATGTCAACCTGCTCAATGACAAGGCTTTG  
GATAGTGGCTTAGAGCTGGCTATTTCACTCAGAAAGTAAAAATCTGCGTCTGTCTATCGGTGCAGCTACCAAGGGGAGAGATA  
TTCGGAGCTTGTTTTGGAGAGTGGCTGTAAATACCAGATTTTGGTTTATCTTCTTACCACCAACAGTTTGTAGCCCATCAGC  
TGGCTCAAGAATTGGTGATTAGCGAGGCTACGCTTGGTCTGCTACTTGGCTGGTTAAATCAGATTTTGTGCAAGTTTGAATTA  
TCCATCCAAAATGGCCGTTGGCGAGGTCAGAGCATCAGATTCACTATTTCTATTTCTGTCTTTCCGAAAGGCTGGTCTGAG  
TCAGGAATGGGAAGGTCACATGCAGAAACCAGAGAGAAAAACAGGAGATTGCCAATTTAGAGGAAATCTGCGGTGCAAGTTT  
GTCTGCGGGGAGAAATTTGGACTTGGTTCTTGGGCTCACATCAGTCAACAACGCTTTCGGGTCAATGCTTGTGAGTTTCAAG  
TCATAGAAGAGAAAAATGCGAGGGTATTTTGACAATATCTTTTATCTTCTGTTGCTGAGAAAGGTTCCGTCCTTTTGTCTGGG  
CAACATATTCCACTAGGAGTTGAGGATGGTGAGATGATGATTTCTTCTTTCTCTATCTCATCGCATTTCTCTCTTCTCAT  
ACTATGGAGTATATTTCTTGGTTTGGAGGGCAGTTGGCAGATTTACTGACGCAATTTGATTCAAGAAATGAAGAAAGGAGGAAC  
TATTGGGGGATTATACAGAGGACCATGTACCTATGAACCTCAGTCAGCTTTGTGCTCAAGTCTATCTCTATAAGGGCTATATT  
TTACAGGATCGCTACAAGTACCAGTTAGAGAATCGTCATCCATATTTACTGATGGAACATGATTTTAAAGAGACAGCAGAGG  
AGATTTTCTGCTCTACCTGCTTTTCAACAGGGGAGATTTAGATAAAGAAGATTCTCTGGGAATGGCTCCAGTTTATCGAA  
TATATGGCTGAAACCGGTGGCCAGCATATGCGGATTGGTCTGGAATTTGACATCTGGTTTCTTGTCTTTTCAAGGATGGCAGC  
CATTTTGAACCGGTATTGGAATACAATCGTTTATTACCATTGAAGCTTATGACCCTAGTCGGCATTATGATTTGCTGGTTAC  
CAATAACCCGATTATGAAGAAAGAACAGACACCAGTCTATTATTTAAAAAATGACTTGGATATGGAGGATTGGTAGCGATT  
CGCCAGTTATTATTCATTAA

4106.7 (SEQ. ID. NO. 215)

ATGGAATTTTCAAGAAACACGTTGAATTTGCAATTAATAAAAAATGCAGGAACGTACCCTGGACCTCTTGATTATCGGTGGAG  
GAATCACAGGAGCTGGTGTAGCCTTGAGGGCGGAGCTAGCGGTCTTGAGACTGGTTTGATTGAAATGCAAGACTTTGAGAGA  
AGGAACATCTAGTCGTTCAACAAAATTTGGTTTACGGAGGAGCTTCGTTACCTCAAAACAATTTGACGTAGAAGTGGTCTCAGAT  
ACGGTTTCTGAACCTGTCAGTGGTTCAACAAATCGCTCCACACATTCCAAAATCAGATCCAATGCTCTTACCAGTTTACGATGA  
AGATGGAGCAACCTTTAGCCTCTTCCGCTTAAAGTAGCCATGGACTGTACGACCTCTTGGCAGGTGTTAGCAACACACCAG  
CTGCGAACAAGGTTTTGAGCAAGGATCAAGTCTTGAACGCCAGCCAACTTGAAGAAGGAAGGCTTGGTAGGAGGTGGAG  
TGTATCTTGACTTCCGTAACAACGATCGCGCTCTCGTGATTGAAAACATCAAACGTCGCAACCAAGACGGTGGCCTCATTGGC  
AACCAGTGAAGGCAGAAAGGCTTCTTTTACGAAAGTGGCAAGATTACAGGTGTTGTAGCTCGTATCTGTGACAGACC  
AAGTGTGTTGAAATCAAGGCCGCTGGTTTATTAATAACAGAGGCTTGGAGTGATAAAGTACGTAATTTGTCTAATAAGGG  
AACGCAATCTCAAAATGCGCCCACTAAGGGAGTTCACTTGGTAGTAGATTCAAGCAAAATCAAGTTTTCACAGCCAGTT  
TACTTCGACACAGGTTTGGGTGACGGTCTGATGGTCTTTGTTCTCCACGTGAAAAACAAGACTTACTTTGGTACAACGTGATAC  
AGACTACACAGGTGATTGGAGCATCCAAAAGTAACCAAGAAGATGTAGATTATCTACTTGGCATTGTCAACAACCGCTTC  
CCAGAATCCAACATCACCATTGATGATATCGAAAGCAGCTGGGCAGGTCTTCG  
TCCATTGATTGACAGGGAACAGTGCCTCTGACTATAATGGTGGAAATAACGGTACCATCAGTGATGAAAGCTTTGACAACTTG  
ATTGCGACTGTTGAATCTTATCTCTCCAAAGAAAAACACGTGAAGATGTTGAGTCTGCTGTCAGCAAGCTTGAAGTAGCA  
CATCTGAGAAACATTTGGATCCATCTGCAGTTTCTCGTGGGTCTAGCTTGGACCGTGATGACAATGGTCTCTTGACTCTTGCT  
GGTGGTAAAAATCACAGACTACCGTAAGATGGCTGAAGGAGCTATGGAGCGCGTGGTTGACATCCTCAAAGCAGAAATTTGAC  
CGTAGCTTTAAATTTGATCAATTTCTAAACTTACCCTGTTTCAAGGTGGAGAAATTGAACCCAGCAAAATTTGGATTGAGAAATCG  
AAGCCTTTGCGCAACTTGGAGTATCAGTGGTTTGGATAGCAAGGAAGTCACTATCTGGCAAAATCTTACGGTTTCAAAATGC  
ACCGAAAGTCTTTGCACTTGGCTCACAGCTTGGAAACAAGCGCCAGGACTCAGCTTGGCAGATACTTTGTCCCTTCACTATGCAA  
TGCGCAATGAGTTGACTCTAGCCAGTTGACTTCTTCTGCTGATACCAATCACATGCTTTATGCGTGATAGCTTGGATA  
GTATCGTTGAGCCAATTTGGATGAAATGGGACGATTCTATGACTGGACAGAGAAGAAGAAAAAGCAACTTACCGTGTGATGT  
CGAAGCAGCTCTCGCTAACACCGATTTAGCAGAATTAATAAATTA

4106.8 (SEQ. ID. NO. 216)

ATGATGAATGAATTATTGGAGAAATTTCTAGGGACTTTAATCCTGATTCTTCTAGGAAATGGTGTGTTGTCAGGTGTGGTTCT  
TCCTAAAACCAAGAGCAATAGCTCAGGTTGGATTGTGATTACTATGGGTTGGGGGATTGCAGTTGCGGTTGCAGTCTTTGTAT  
CTGGCAAGCTCAGTCCAGCTTATTTAAACCCAGCTGTGACCATCGGTGTGGCCTTAAAGGTTGGTTTGCCTTGGGCTTCCGTT  
TTGCCTTATATCTTAGCCAGTTCGAGGGGCCATGCTGGGTGAGTTTGGTTTGGTTGCAATTCAAACCTCACTATGAGGC  
AGAAGAAAAATGCAAGGCAATATCCTGGCAACCTTCACTGACTGGACAGCCATCAAGGATACATGATCAAACTTGATTAGCGAA  
ATCCTTGGAACTTTTGTGTTGGTGTGACAATCTTTGCTTTGGGTCTTTACGACTTTCAGGCAGGTATCGGAACCTTTGCAGTG  
GGAACCTTTGATTGTGCGGTATCGGTCTATCACTAGGTGGGACAAACAGGTTATGCCTTGAACCCAGCTCGTGACCTTGGACCTCG  
TATCATGACAGCATCTTGGCAATTGCCAAAGGAGGAGCGGAGCTGGTCTTACGCTTGGATTCTGTTGTAGGCCCTGTTA  
TCGGAGCAGCCTTGGCAGTGCTTGTATTTCTACTTTTCTAG

4106.10 (SEQ. ID. NO. 217)

ATGAAAAGGACCTGGAGAACTCATTCTGTGACAAATCTTAATACACCTTTTATGATTGGCAATATTGAGATTCCCAATCGTAC  
CGTTTTAGCGCCTATGGCTGGCGTGACCAACTCAGCCTTTCTGACTATCGCAAAGGAGCTCGGAGCTGGACTCGTTGTAATGG  
AAATGGTCTCTGACAAGGGAATCCAATACAACAACGAAAAACCCCTGCACATGTTTCAATATCGATGAGGCGGAAAAACCCCTG  
TCTCTATCCAATTTTGGTAGCGATGAAGACAGCCTAGACGCGCAGAGAAATTCATCCAAGAAAAACCAAGACCGATAT  
CGTGGATATCAACATGGGCTGCCCTGTCAACAAAAATCGTGAAGAACGAGCTGGTGCTATGTGGCTCAAGGATCCAGACAAG  
ATTTACTCCATCATCAACAAGGTCCAGTCTGTCTTGTATATCCACTTACTGTCAAAATGCGTACCGGCTGGGCGGACCCATC  
TCTTGCAGTAGAAAATGCTCTCGCTGTGAAGCTGCAGGTGTTTCTGCCCTCGCCATGCATGGCCGTACCCGTGAACAAATGT

ATACTGGCCACGCAGACCTTGAGACCCTTTACAAGGTTGCCAAGCTCTAACCAAGATTCCATTTCATCGCCAACGGTGATATC  
CGTACTGTCCAAGAAGCCAAGCAACGCATCGAAGAAGTTGGTGCTGACGCAGTCATGATTGGCCGAGCTGCCATGGGAAAT  
CCTTACCTCTTCAACCAAAATCAACCAATTACTTTGAAACAGGAGAAATCCTACCTGATTTGACCTTTGAAGACAAGATGAAGAT  
CGCCTACGAACACTTGAACGATTGATTAACCTCAAAGGAGAAAACGTCGCAGTTCTGTGAATTCGCGGCTCTCGCTCCTCAC  
TATCTCCGTGGAACATCTGGCGTGCCAACTCCGTGGAGCCATTTTCGCAAGCCAGCACCTTGGCAGAGATTGAAACCCCTCT  
TGCAATTGGAGAAGGCTTAA

## 4107.1 (SEQ. ID. NO. 218)

ATGACAAAGAAGAAAATTGAGCGTATTTCTGTAATACACCGAGAAAAGATTTTATGGCTCAAGTGGTATTTTCATGCGAGATA  
AAGAACAACCTAAGTATAGTGTCTTGGAGCGTAAAAATGTTTGATGCTGCTAAAAATCAAGATATGCTAGCTTATCAAAAATA  
CGCAACTATCAAGCAGATAACAGATATTAGGGTACAAACAGTGAGGCTGACATTTTAGAGGGCTGTAAAAGAGGTTTATGTG  
TACAATCACATGAATGTTATCGGAGCTTGTACGCGGATATTATTTATCAGTCAATCACCAGCTTATGATAAGTTAAATAAGTG  
GTTTAATATCTATTCTGATTGTATTTTAGCGTTGTACCCTTGCCCAAAATGGGGGTATATCATGAGATGGTAGGTATCTAG

## 4107.2 (SEQ. ID. NO. 219)

ATGAAAAATTTCCAACGAGGCTGAGATGAAAATTACTTTATACTGATATTCGGACTTCTTTGACAGAAAATTTAACAAGAGAGG  
CAGAAGAGCTAGTTGACGCTGGCAAGCGGGTCTTCTACATTGCCCAAACTCTCTTTCTTTTGAAGGAACGCGCGTGCTG  
GAATACTTGTCCCAGCAGGCTTCTTTTTCGATTACCGTCACGCGCTTTGCTCAAATGGCTCGCTATCTGGTCTTGAATGATTTA  
CCAGCTAAAACTACTCTTGTATGATATCGGTCTTGGGTTGGCCTTTTACAAATGCCTTGGCGAACTCGATCCCAAGGACTTGGC  
TGTTTATGGCGCTATTAAGCAGGATCCCTCAATTGATCCAGCAGTTAATTGAGCTTTACCATGAGATGACCAAAATCTCAGATGA  
GTTTTTGGGACTTGGAGAATTTAACAGATGAGGATAAGAGGGCGGATTTACTCTTGATTTTTGAGAAAAGTAACAGCCTATCTT  
AATCAAGGTCAGTTAGCCACGGAAGTCAAGTTGTCCCAATTTGATTGAGGCTATTGAGAAATGACAAGGTAAGTAGTATTTTA  
ATCAAATCGCCTTGGTCATTGACGGCTTTACTCGTTTTCTGCTGAGGAAGAGCGGGTTGTGGACTTACTTACGGCAAGAGT  
TTGAGATTGTTATCGGGCTTATGCTAGTAAGAAAGCCTATACCAAGCTCTTTAGCGAGGGCAATCTCTACCAAGCCAGCGT  
AAAATTTCTCCATCATCTGGCTTCTAAATACCAACGCGCTGCTCAGGACTGTTCTCAAACCTCATGAGAAGATGGATAGTTTGT  
ACAAGGCCCTCTCGTTTGTGGAGTCTTCTATGACTTTTACAGAACTCGCTTGGATGTGATGAGAAAAGACCGTGAAAAATTTA  
CAAATCTGGTCTTGTGTTGACGCAAAAGGAGGAGTTGGAGCTAGTAGCCCGTAGTATTCTGTCAGAAAATTACATGAGAAGCTCAG  
ACCTGAGCTACAAGCATTTTCGTATTTCTTGGGGGATGTAGCTTCTTACCAGTTATCTCTCAAAACCATTTTTGACCAAGTATC  
AGATTCCTTTTTATCTTGGTAGAAGCGAAGCCATGGCTCATCATCCCTTGACTCAGTTTGTGCGAGTCTATTTAGCTTTAAAC  
GTTACCGTTTTCTGTCAGGAGGATTTGATTAATCTTCTAGAACTGATTTGTATACTGACCTCAGTCAGTCTGATATTGATGCTT  
TTGAGCAATATATCCGCTATCTTGGTATCAATGGCTTGGCAGCCTTTACGCAAACTTACCAAAATCCCAACATGGAAAAATTT  
AATCTTGAGCGTTTGAATGTCTCCGCTGAGAATTTTAGCACCTCTTGAAACCTCTTTGCCAGCCGAAAAACAAAAGGCTGA  
AAAACCTCTACAAAAATGGAGTGTCTTTCTAAAAGAGGAGCTGTGACCAAGCAGTTACAAGATTTGACAACCACTTTGGAA  
GCTGTAGAACACAGGAAGACAAGCCGAAGTTTGGAAAGGCTTTTGCATGTTTTAGAACAATTTGCGACTGTTTTTGTCTGGTTC  
ACAGGTTAGTCTGGAAGACTTCTAGCCTTGTCTCAATTCTGGAATGAGTTTGTCCCAATACCGTACCATTCCAGCAACAGTGG  
ACACTGTTCTGGTGCAGAGTTACGATTGTGACACCATGCTGCTGACTTGTCTATGCTATTGGACTAACTCAGGACAAT  
TTACCAAAAAATTTCTCAAAACACCAAGTCTTCTGACAGATGAAGAAAGCAGCAAAACCTAAACCAAGCGACCGAAGGCGTT  
CAATTACTGATTGCCAGCAGTGAAAAATCTCAAGAAAAATCGCTACACTATGCTTTGCTTGGTCAATTCTGCTCGTAAGCAGTT  
GTTCTTGTGGGCTCCAAGCCTTTTAAACGAAAGTGAAGTAAGGAATCTGCCTATCTTCAAGAGTTGATCCATTTTGGATTGA  
GGCGGAGAGAGAAGAGGATGAATCAAAAGGACTGTCTAAGGAGGATATGGGGTCTATCACAGTCTTTTGTCTAGTCTGGT  
TGCCTATCACAGCAGGCTGAGATGAGCGATCTGAGCAAGATTTGACTTTTGTCAAGGTTCTGTCGCGTGTCAATAGGTAAA  
AAACTAGATCAGCAAGGTCTGGAAAAATCCAGCTATCCCAACCAAGTCCAAGCAGCAAGACCTTAGCCAAGGACACCTTGCAA  
GCTCT  
CTATCTTGCCAAACAGGAGTTTACCTGTCTACGTGGGTTTGGACAGATTTTATCGCAATGAATACAGTTATTTCTACGCT  
ACGTTTTAGGCTTGCAGGAGGAATTACGTTTGCATCCTGATGCCGTAGTCACGGGAATTTCTTGCATCGTATCTTTGAACGC  
GCCTTACAGTTGCCTAATGAAGATTCTTTGACCAACGTCTAGAACAAGCTATTCAAGAAACCAAGTCAAGAACGCGAATTTG  
AAGCTATTTATCAAGAAAGTTTGAAGCCAGTTTACCAAGGAAGTTTGTCTGATGTTGACGGACAACCTGGACATATTCTC  
CGACAAATCCAGCATCGAAACCATCAAGAAAGAGCAAAATTTGGTGAAAAGACCAAGCCTTTATTTCAATTAGACAAT  
GGACGCAGTGTCTTTGTACGAGGCAAGGTGGACCGGATTGACCGTTTGAAGCTAATGGAGCGATAGGAGTAGTACTAC  
AAATCCAGTCTGACTCAGTTCCAGTTTCTCATTTCTTAAATGGGCTCAATTCTCAGTTACCAACCTATCTTGTGCCCTAAAA  
AGAGAAGGGGAGCAGAACTTTTTCGGCGCCATGTACTTGAAATGGCTGAACCTGTCCAATCTGATGGCGGTA AAAAGTC  
TGGCAGGAGCAGTGGTAGAAGCCAGCAAACTATGAAATACCAAGGGCTCTTCTTGGAAAAAGAAAAGCAGTTATTTAGGCG  
AATTTTATAACAAAAACAAGGCTAATCAACTGACAGATGAGGAATTTAGCTCTACTGGACTACAAATGCCTATCTTTACAA  
GAAAGCTGTGAGAAGATTTTAGCAGGCCGTTTGGCCATCAATCTTATACTGAAAATGGCAGAAAGCATTGCCCCATACGTC  
CAGCAACATCAGGCTATTACAGGCTTTGAAGCCAATTACCATCTGGGCCAAGCCGTTTCTAGAAAAGTTGGACCTAGCTG  
ATGGCAAGCGTCTGGTGGAGAAAAACTCAAGCAAGCTTGGCTTGAAAAATAA  
GAGAGGAGTTGAATCGATGA

## 4107.3 (SEQ. ID. NO. 220)

ATGAAGCTTATTCCCTTTTAAAGTGAGGAGGAGATTCAAAAACTGCAAGAAGCAGAAGCAAAATTCGAGCAAGGAACAGAAG  
AAAACCTGCCAGCAAAATCGAAGCTATCTACACTTCTGCCAGAAATATCTGGTCTCAGCATCGGCTGGTTCTGGAAAGACCT  
TTGTCATGGCAGCGCATCTGGACCAATTGGCGCTGGTGTGCAAAATTTCTCAACTTTTATCTCAACCTTTACCGTCAAG  
GCTGCAACTGAACTTAAAGAAGCTTTAGAGAAAAAATCAGCAAGAAAAATCCAAGAAACAGATGATGTGACCTCAAACAA  
CACTTGGGTGCGCAGTTGGCAGACCTACCCAACGCTGCCATTGGAACCATGGATTCTTTACACAAAAAATTCCTTGGCAAAAC  
ATGGTTATCTGCTTGATATTGCACCTAATTTCCGTATTTTACAAAACCAAGCGAGCAACTTATTTCTGAAAAACGAAGTCTTT  
CATGAGGCTTTTGAAGCGCATTTACCAAGGTAACAGAAAAAGACCTTTAGTCAATTTGCTGAAAAAATTTGCTGGCGTGCGCA  
AGGACGAACGGGGTCTGCGCCAGCAGGTCTATAAAATCTATGACTTCTTCAATCCACCAGTAATCTCAAAAGTGGCTGAG  
TGAATCTTTCTCAAAGGATTTGAGAAAGCTGATTTTACCAGTGAAAAAGAAAACTGACCGAGCAAAATCAAAACAAGCCCTT  
TGGGATTTGGAAGCTTTTCCGTTACCATCTGGATACAGTACGCAAGGTTTGGCAAGGCTGCTATTTAGAAAAATGTTCA  
GTTAATTTCTGGATGAAATTTGGCTCCCTAAATCAGGAGTCCGATAGTCAGGCTTATCAGGCAGTGCTTGGCGGTGTTGTGCGCA  
TCTTAAGGAGAAAAACGGTTCGAGCTCTGACTAATGCCAGCGTAAGGCTGATTGAGCCCTGGCTGATGCCTACAACGA  
AGAGAGAAAGACCCAGTTTGTAACTAGGACAATTATCAGACCAGATAGCGAT

TCTCGACTATCAAGAACGTTATCATGGAGACACTTGGAACTAGCTAAACCTTCCAATCTTTTCATGAGCGATTGTTGTAGAGG  
 CTTATCGTCAGAGAAAACGACAGGAAAATGCCTTCGAATTCGCTGATATCAGCCATTACACCATTGAGATTTTGAAGAATTT  
 CCCACAAGTTTCGTGAGTCTTATCAGGAGCGCTTCCATGAAGTCATGGTTCGATGAGTATCAGGATACCAACCATATTTCAAGAA  
 CGGATGCTGGAATTTGTGTCTAATGGCCACAATCGCTTTATGGTGGGAGATATCAAGCAATCCATCTATCGTTTCCGTCAGGC  
 AGACCCGAGATTTTCAATGAGAAATTTCAACGCTATGCGCAAAATCCCAAGAAAGGCAGGCTCATTATCCTCAAGGAAAAAT  
 TTCCGTAGTAGTTCAGAAGTGCTGTCAGCAACCAATGATGTCCTTTGAACGTCTCATGGACCAAGAGGTCGGCGAAATCAACT  
 ATGATAACAAGCACCAGCTTGTTTTTGCCAATACCAAACTGACTCCCAATCCAGACAACAAGGCAGCATTTCTCCTCTACGAC  
 AAGGACGATACAGGTGAGGAAGAAGAGAGTCAACAGAAACGAACTAACAGGCGAAATGCGCTTAGITTATCAAGGAGAT  
 TCTGAAACTTCATCAAGAAAAAGGTGTTGCCCTTTAAGGAAATTTGCCCTTCTGACCTCCAGCCGAGTCGTAATGACCAGATTC  
 TCCTCGCCCTGTCTGAGTACGGAATTCCTGTCAAACTGACGGAGAGCAAAACAATTATCTCCAATCCCTAGAAGTGCAAGT  
 CATGCTAGACACTCTCTGTGTCATTCAAAATCCCTGCAAGACTACGCTTGTTGCCCTTATGAAGTCTCCAATGTTTGGTTT  
 TGATGAGGATGAGCTAGCACGTTTGTCCCTTCAGAAAGCAGAGGATAAAGTCCACGAAAAATCTCTATGAGAAACTGGTCAAT  
 GCACAAAAAATGGCAAGTAGTCAAAAAGGCTTGATTACACAGCTCTAGCTG  
 AAAAACTAAAGCAATTCATGGATATCCTAGCTTCTTGGCGCTTGATGCCAAAAACCCACTCTCTATGACTTGATTGGAAG  
 ATTTACAACGACCGTTTTTATTATGACTATGTTGGGCTTTGCCAATGGTCTGCTAGGCAGGCCAATCTCTATGCCCTAGC  
 ACTCGCTGCTGATCAATTTGAAAAGAGCAATTTCAAAAGGTTTTCGCGTTTTATTTCGTATGATTGCAACAGTCTTAGAAGCCC  
 AGCAGCATTTGGCAAGCGTGCCGCTCGCACCGCCAAAAGATGCAGTAGAGCTCATGACCATCCACAAGAGTAAAGGGCTGG  
 AGTTTCTTACGCTTTTATCTCAATATGGATCAAGATTTCAACAAGCAAGACTCTATGTCAGAAAGTCAATCTCAGTCGTCAG  
 AATGGTCTTGGTGCAAAATATATTGCCAAGATGGAGACAGGGGCAGTAGAAGACCACTATCCTAAAAACCATCAAACTCTCCA  
 TTCTAGTCTGACCTATAGGCAGAACGAAGAGGAATTACAGCTAGCAAGCTATTCTGAGCAGATGCGTTTGGTGTATGTTGCT  
 ATGACGCGGGCTGAGAAAAAGCTCTATCTTGTGCGCAAGGGTTCTCGTGAAAAGCTGGAATCCAAGGAATACCCAGCAGCC  
 AAAAAATGGGAACTAAATAGCAATACTAGACTGCAAGCAGGAATTTCCAAGATTGGCTTTGGGCTATCAGTAAAGTGTTTA  
 CTAAGGACAAGCTCAACITTAGTTATCGTTTTATTGGCGAAGATCAGTTGACCAAGAGCTATCGGAGAGTTGGAAAGCCAA  
 GAGTCTCTCCAAGATAGCTCCCAAGCAGACAATCGTCAGTCAGATACCATCAAAGAAGCTCTGGAAATGCTGAAGGAGGT  
 GGAAGTTTATAATACTCTTACCGCGCAGCTATTGAACITCTAGTGTCAAACCCCAAGTCAAATCAAGAAATTTACGAAC  
 CAGTTATGGATATGGAAGGTGTCGAGATTGCTGGTCAAGGTCAGTCAAGCAAGAAATCAGCTTCGATTGCTTCCAGATT  
 TTCAACCAAGAAAGGTAAGCTGGAGCTGAGATTGGTAGTGCTACTCACGAACCTCATGCAGAGAATTGACCTCAGCCAGCA  
 ACTAACCTTGCTAGCTTAACAGAAACACTCAAACAAGTTCAAACCTAGCCAAGCTGTCAGAGACAAGATCAATCTTGATAAA  
 ATCTTGCTTTCTTTGACACAGTACTCGGTGAGGAAATTTCTGCTAATACCGACCATCTTTATCGCGAGCAACCTTTCTCATG  
 CTCAAACGAGACCAAAAGAGTCAAGAAAGACTTTGTTGTCGCTGGTATCTCTGATGGCTATCTGCTTTACGAAATCAAAATG  
 TTCTGTTGACTACAAGACAGACCGCTATGATGAACCAAGTCAACTCGTAGACCGCTATCGTGGTCAGTTAGCTCTATACGA  
 AGAGGCTTTATCAGGAGCTATTGCGATTGAAAAATTGAAAAATACTTGATTTTACTCGGTAAAGACGAGGTTCAAGTTGTA  
 AAAGTATAA

## 4109.1 (SEQ. ID. NO. 221)

ATGGAACCTTGCTCGCCATGCTGAAAGCTTGGGAGTAGATGCTATTGCAACGATTCCACCAATTTATTTCCGCTTGCCAGAATA  
 CTCAGTTGCCAAATATCGAAGCATATCAGTTCTGACGCTCCAAACACAGACTACGTGATTTACAACATTTCTCAATTGGCAG  
 GGGTTGCTTTGACTCCAAGCCTTTACACAGAAATGTTGAAAAATCCTCGTGTTATCGGTGTGAAGAATCTTCTATGCCAGTT  
 CAAGATATCCAAACCTTTGTCAGCCTTGGTGAGAGAAGACCATCGCTTTAATGGTCTGATGAGCAGTTCTAGGAGGAC  
 GCCTCATGGGGGCTAGGGCTGGTATCGGTGGTACTTATGGTGTCTATGCCAGAATCTTCTGAAACTCAATCAAGTTGATTGCG  
 GATAAGGACCTAGAAACAGCGCGTGAATTCAGTATGCTATCAACGCAATCATTGGTAAACTCACTTCTGCTCATGGAATA  
 TGTACGGTGTCAATCAAGAAAGTCTTGAAATCAATGAAGGCTTGAATATTGGATCTGTTGCTTACCATTTGACACCAAGTACT  
 GAAGAAGATCGTCCAGTTGTAGAAGCGGCTGCTGCCTTGATTGCTGAAACCAAGGAGCGCTTCTCTAA

## 4110.2 (SEQ. ID. NO. 222)

ATGTATAAGACAAAGTGTACGAGAGAAGTTAGTATTATTTTTAAAAATTTTCTTCCCAATCCTGATCTACCAATTTGCCAA  
 TTATTTCTGCCTCTTTGTTGATACTGCAATGACAGGTCAATACAACTATGGACTTGGCTGGTGTATCTATGGCAACCAAGTA  
 TCTGGAATCCTTTCTTTACATTTCTAACAGGGATTGTGTCAGCCTTGGTGCCTATCATTGGTCAACATCTTGGTCGAGGCAAAA  
 AGGAAGAAGTTGCGTCTGATTTTACCAATTTATTTATTTGGCCTTGGGCTATCTGTGGTCTTGTGGGGATGGTACTTTCT  
 TGGCACCAATAATCTTGAATCATATTGGGTTAGAAGCAGCAGTAGCGGCTAGCGGTTTCGCTATCTTTGGTTTTATCTATC  
 GGGATTATCCCTTGTGCTCTTACGCTCATTGCTTCTGTTGATTCGCTTGGGCTTGACCAAACTGTCCATGTAACCTCATG  
 CTTTTGTTACTCCCTCTCAATAGCGGATTTAACTATCTCTTGATTACGGTGCCTTTGGTGTTCAGAACTGGGAGGGGCTGGT  
 GCTGGTTTAGGAACATCCTTGGCCTACTGGGCTTGTGTTGGGATTTCTGTTCTGGTTTTATTTAAACAGGAGAAGCTCAAAGC  
 CTTACACCTTGAGAAACGAATTCACCTTAATATGGATAAAATTAAGGAAGGAGTTTCGTTTAGGTCTGCTTGGGGAACT  
 GTCTTCGCGGAAGTGGCTATCTTTTCAAGTGGTTGGCTTGATTATGGCTAAGTTTTCGCCCTTGATTATAGCTAGTCAACCAAGTA  
 GCTATGAACTTTCAAGTCTTATGTACGCTTTCCTATGAGTATCTCATCGGCTATGGCTATTGTGCTTTCCTATGAAGTGGGA  
 GCCAAGCGATTGATGATGCGAAAACCTATATTGGTCTAGGAAGATGGACTGCCCTCATTTTGGGGCTTACCTTAACCTT  
 CCTTACATTTTTAGGGGAAATGTGGCCAGTCTTTATGGTAACGACCAAAATTTATCGATTGACAGTGGCTTTTAACTTA  
 TAGTCTTTTCTTCCAGTTAGCAGATACCTTTGCGGCGCCGCTTACGGGAATTTTGGGGGGTATAAGGATACAGTTATTCCTTT  
 TTACCTTGGTTTGGTTGTTATTGGGGCGTAGCAATCCCTGTGTACGCTATTGTA

## 4112.2 (SEQ. ID. NO. 223)

ATGAGTACTTTAGCAAAAATAGAAGCGCTCTTGTTTGTAGCGGGTGAAGATGGGATTCGGGTCCGCCAGTTAGCTGAACCTCC  
 TCTCTCTGCCACCGACAGGCATCCAGCAAGTTTAGGAAAAATAGCCCAAGATATGAAAAGGACCCAGATTCCAGTTTGGC  
 TTTGATTGAGACAAAGTGGTCTTATAGATTGGTGAAGCAAGCTCAATTTGACAGAGATTTGAAGGAATACTCTAAGCGCCT  
 ATCAACCCAGAGCTTGTCTCGGGCTGCCCTTGAGACCTTGTCCATTATTGCCTACAAACAGCCGATTACGCGGATAGAAATTGA  
 TGCCATCCGTGGAGTTAACTCGAGTGGAGCCTTGCCAAAGTTGCAGGCTTTTGACCTGATAAAGGAAGACGGGAAAAAGGA  
 AGTATTGGGGCGCCCCAACCTCTATGTGACTACGGATTATTTCTAGATTACATGGGGATAAACCATTAGAAGAATTACCA  
 GTGATTGATGAGCTTGAGATTCAAGCCCAAGAAAGCCAATTATTTGGTGAAAGGATAGAAGAAGATGAGAATCAATAA

## 4113.1 (SEQ. ID. NO. 224)

ATGGATACGATGATTAGTAGATTTTTTCGCCATTTATTTGAAGCCTTAAAAAGTTTGAAACGAAATGGTTGGATGACAGTAGC  
 TGCTGTCAGTTCACTGATTACTTTGACCTTGGTGGCAATATTTGCATCTGTTATTTCAATACAGCGAAACTAGCTACAG  
 ATATTGAAAAAATGTCCGTGATAGTTTATATCCGAAAGGATGTGGAAGATAATAGTCAGACAATTGAAAAAGAAAGGTCA  
 AACTGTTACAAATAATGACTACCACAAGGTATATGATTCTTTGAAGAACATGTCTACGGTTAAAAAGTGTACCTTTTCAAGTA



AAGAAGAACATATGAAAAATTAACCGAGATAATGGGAGATAACTGGAAAAATCTTTGAAGGAGATGCCAATCCTCTCTATG  
ATGCCATATATTGTAGAGGCAAACTCCAAATGATGTAAAACTATAGCCGAAGATGCTAAAAAAATTTGAAGGTGTCTCTGA  
GGTTCAAGATGGCGGTGCCAATACAGAAAGACTCTTCAAGTTAGCTTCATTTATCCGTGTTTGGGGACTAGGGATTGCTGCTT  
TGTTAATTTTTATCGCAGTTTTCTTGATTTCAAATACCATTCTGATTACCATTATTTCCCGCAGTCGCGAAATTCAAATCATGC  
GCTTGCTCGGAGCTAAAAACAGTTATATCCGTGGACGCTTCTTGTAGAAAGGAGCCTTTATCCGTTTATTGGGAGCTATCGCA  
CCATCTGTTTTGGTCTTTATTGTTTATCAAATTGTTTACCAATCTGTCAACAAATCGTTGGTAGGGCAAAATCTATCCATGATT  
AGTCCAGATTTATTTAGTCCGTTGATGATTGCCCTACTATTTGTGATTGGGGTTTTCATTTGGTTTCATTGGGATCAGGAATATCC  
ATGCGCCGATTCTTGAAGATTAG

4117.1 (SEQ. ID. NO. 225)

ATGAAGAAAAGTAAGATTTATTTTTTAGCTCTGCTATTTTTCTTAGCTAGTCCAGAGGGTGCAATGGCTAGTGATGGTACTTG  
GCAAGGAAAACAGTATCTGAAAAGAGATGGCAGTCAAGCAGCAAAATGAGTGGGTTTTTGATACTCATTATCAATCTTGGTTC  
TATATAAAAGCAGATGCTAACTATGCTGAAAATGAATGGCTAAAGCAAGGTGACGACTATTTTACCTCAAATCTGGTGGCT  
ATATGGCCAAATCAGAATGGGTAGAAGACAAGGGAGCCTTTTATTATCTTGACCAAGATGGAAAGATGAAAAGAAAATGCTT  
GGGTAGGAACCTTCTATGTTGGTGCAACAGGTGCCAAAGTAAAGACTGGGTCTATGATTCTCAATACGATGCTTGGTT  
TTATATCAAAGCAGATGGACAGCAGCAGAGAGAAAGAAATGGCTCCAAATTAAGGGGAAGGACTATTATTTCAAATCCGGTGG  
TTATCTACTGACAAGTCAGTGGATTAATCAAGCTTATGTGAATGCTAGTGGTGCCAAAGTACAGCAAGGTTGGCTTTTTGACA  
AACAATACCAATCTTGGTTTTACATCAAAGAAAAATGGAAGCTATGCTGATAAAGAAATGGATTTTCGAGAATGGTCACTATTA  
TTATCTAAAATCCGGTGGCTACATGGCAGCCAATGAATGGATTGGGATAAGGAATCTTGGTTTTATCTCAAATTTGATGGGA  
AAATGGCTGAAAAAGAATGGGTCTACGATTCTCATAGTCAAGCTTGGTACTACTTCAAATCCGGTGGTTACATGACAGCCAA  
TGAATGGATTGGGATAAGGAATCTTGGTTTTATCTCAAATCTGATGGGAAAAATAGCTGAAAAAGAATGGGTCTACGATTCT  
CATAGTCAAGCTTGGTACTACTTCAAATCCGGTGGTTACATGACAGCCAATGAATGGATTGGGATAAGGAATCTTGGTTTTA  
CCTCAAATCTGATGGGAAAAATAGCTGAAAAAGAATGGGTCTACGATTCTCATAGTCAAGCTTGGTACTACTTCAAATCTGGT  
GGCTACATGGCGAAAAATGAGACAGTAGATGGTTATCAGCTTGGAAAGCGATGGTAAATGGCTTGGAGGAAAAACTACAAAT  
GAAAAATGCTGCTTACTATCAAGTAGTGCCTGTTACAGCCAATGTTTATGATTACAGATGGTGAAGGCTTTCTATATATCCGA  
AGGTAGTGTCTGATGGCTAGATAAGGATAGAAAAAGTAGATGACAAGCGCTTGGCTATTACTATTCTGGTTTGTCAAGGCTAT  
ATGAAAAACAGAAAGATTGTAAGCGCTAGATGCTAGTAAGGACTTTATCCCTTATTATGAGAGTGATGGCCACCGTTTTTATCA  
CTATGTGGCTCAGAATGCTAGTATCCAGTAGCTTCTCATCTTTCTGATATGGAAGTAGGCAAGAAATATTATTCGGCAGATG  
GCCTGCATTTTGTGGTTTTAAGCTTGAAGATCCCTTCCTTTTCAAAGATTTAACAGAGGCTACAAACTACAGTGTGAAGAA  
TTGGATAAGGTATTTAGTTTGTCTAAACATTAACAATAGCCTTTTGGAGAACAAAGGGCGTACTTTTAAGGAAGCCGAAGAAC  
ATTACCATATCAATGCTCTTTATCTCCTTGCCCATAGTGCCCTAGAAAGTAACTGGGGAAGAAGTAAATTTGCCAAAGATAA  
GAATAATTTCTTTGGCATTACAGCCTATGATACGACCCCTTACCTTTCTGCTAAGACATTTGATGATGGGATAAGGGAATTT  
TAGGTGCAACCAAGTGGATTAAAGAAAAATTATATCGATAGGGGAAGAAGCTTTCTTGGAAACAAGGCTTCTGGTATGAATGT  
GGAATATGCTTCAGACCCTTATTGGGGCGAAAAAATTGCTAGTGTGATGATGAAAATCAATGAGAAGCTAGGTGGCAAGA  
TTAG

4119.2 (SEQ. ID. NO. 226)

ATGAAAAAAGTATTACAAAAATATTGGGCATGGGCTTTTGTGGTCATCCCCCTCTTGTACAAGCAATTTTCTTCTATGTGCC  
GATGTTTCAAGGAGCCTTTTACAGTTTTACCAACTGGACAGGATTGACTTATAACTACAAATTTGTGGCTTAAACAACTTTA  
AGCTCCTCTTCATGGATCCAAAAATTCATGAATGCGATTGGCTTTACCGCAATCATTTGCGATTGCCATGGTGGTTGGTGAGATT  
GCACTCGGGATCTTCATTGCGCGTGTCTTGAATTTCAAATCAAAGGCCAAACCTTCTTCCGTGCTTGGTTCTTCTTCCAGCT  
GTTTTATCTGGTTTGACAGTGGCTTTGATCTTCAAGCAAGTCTTCAACTACGGTCTTCCAGCGATTGGAATGCCCTTCATATT  
GAATTTTCAAACCAGTCTTTTAGGGACTAAGTGGGGAGCAATCTTTGCGGCTGTCTTTGTCTTCTTTGGCAAGGGGTGGC  
TATGCCCATCATCTCTCTAGTCTTGTGCAATCTATTCCAATGAGATTACAGAGGCAAGGATTTGATGGTGGGACTA  
GCAAGCAAGTTTTCTGGAACATTGAATTGCCTTACTTGCTACCAAGTGTCTCTATGGTCTTTATCCTAGCCCTAAAAGGTGGG  
CTGACTGCCCTTTGACCAAGTCTTTGCCATGACCGGTGGTGGTCCAAACAATGCCACAACCTCACTTGGGCTCTTGGTTTATAA  
CTATGCCCTTTAAAAACAACCAATTCCGTTATGCCAATGCCATTGCCGTAATCTTGTCTTCTTAATTGTAGTGATTTCGATCAT  
CCAATTGAGAGTATCAAGAAATTTGAAATTTAA

4119.3 (SEQ. ID. NO. 227)

ATGATGAAACAAGATGAAAGAAAAAGCCCTGATTGGCAAATACATTCTATTGATTCTAGGATCGGTTCTGATTTTATGTCCGC  
TCCTTGCTACCCCTCTTTAGTTCCCTTCAAACCCACTAAGGATATTGTAGATAATTTCTTTGGCTTTCCAACCAACTTCACATGGG  
ACAACCTTTAGCCGTCTCTTAGCTGATGGGATTGGAGGCTATTATTGGAACCTGTGCTCATCACTGTCTTGTCTTTACTTGCAG  
TAATGATCTTTATCCCTATGGCAGCCTACTCCATCGCTCGCAATATGAGTAAAAAGAAAAGCCTTTACCATCATGTATACCCTT  
TTAATCCCTCGGAATCTTCTGATACCTTTCCAAGTCATCATGATTCCGATTACGGTTATGATGAGTAAACTCGGTTTGGCTAATACC  
TTTGGTTTGTCTTGTCTTACTTGACCTATGCGATTCCACAGACCCTCTTCTCTATGTTGGCTATATCAAATCTCGATTCCA  
GAAAGTCTGGATGAAGCAGCAGAGATCGATGGGGCTAATCAATTTACAACCTATTTCCGCATCATCTTCCCAATGATGAAAC  
CGATGCAATGCCACAACCATGATCATCAATGCCCTTGGTTCTGGAATGACTTCATGTTGCCACTCCTTGTCTTGAACCGGGAT  
TCCAAAAATGTGGACTCTGCCCTTTGTTCCAATACAACCTACGCAGGCCAATATTTCAACGACTACGGACCAAGCTTTGCCCTTCA  
CGTGGTCCGCAATTATCAGTATCACCATTGTCTATCTCTTCTTCCAACGCCATATCATTTTCAGGAATGAGCAACGGGGCAGTGA  
AGTAA

4119.4 (SEQ. ID. NO. 228)

ATGAAAAAGTATTTTCAGAAAAATGGGGGAGCATCCGATGCTGCTTCTTTTTCTTAGCTATAGTACTGTTATATCCATTCTTGCA  
CAAAATTTGATGGGCTTGTGGCTTCAGTAGGAATGTTTCTATTACTATTTCTTTTGGCACTATCAGTCGATTTTATCCCAT  
AAATTTCTTTGATTTGATTTTGCAGTTTGTCTTGTGGTAGTGTCTTGTGAGCTGCTTTTGGCAGTTTGAACATTTCCAAATTTG  
TGAAGAAATTTAACTATGCTTTTCTTCAACCAATATGCAAGGTGTGGCATCAGAACCGGGCAGAAAGTGACCTTCTTTAATCCT  
AATTATTATGGAATTTATTTGTTTCTGTATTATGATTGCTTCTATCTGTTTACAACGACCAAGTTGAATTGGTTGAAAGTA  
TTCTGTGTGATTGCAAGCTTTGTTAACTCTTTTGTGTTGAACTTTACTCAAATTCGAACTGCCCTTCTGCTATTATCGCTGGA  
GCAATTATCTATCTCTTACGACTATTAATAAACTGGAAGGCCTTTTGGCTTAGTATTGGGGTCTTCGGGATTGGTTTGAAGTTT  
CTCTTTTCTAGTGATTTGGGAGTTCGAATGGGTACTTTAGACTCTTCTATGGAAGAACGCATTTCTATCTGGATGCTCTGGGAT  
GGCCTTGTTTAAGCAAAATCCTTTTTGGGGTGAAGGCCATTGACCTATGAACCTTATCCTCGGATACATGCTCTTATC  
ATGAACATGCCACAGCTTTTATATTGATACCGATTCTGAGTTACGGAATTGTGGGGACTATTTTATTAGTTTTGTCTTCTGTTG  
CTCCTGTTCCGTTGATGATGGATATGAGTCAGGAGTCGGGGAACGTCGGAATTATCGGCCCTTATCTATCTTTCTTACAGT



GTTGCTGTGCACGGAATTTTGGACTTGGCTCTCTCTGGATTGAGTCAGGCCTTATTTTCTTGCTAGTTATGTGCAGTATTCAT  
TGGAGCATCGAATGTTGGTATCGGACATGACCGATTAA

4120.1 (SEQ. ID. NO. 229)

ATGTCAAAGATGGATGTTTCAGAAAATCAATTGCACCGATGATGAAGTTTGTGAATATGCGTGGCATTATAGCTCTAAAAGATG  
GGATGTTAGCAATTTTGGCATTGACAGTAGTTGGTAGTTTGTCTTGATTATGGGACAATTGCCGTTTCAAGGATTAATAAG  
AGCATTGCTAGTGTCTTTGGAGCTAATTGGACAGAGCCGTTTATGCAAGTATATTCAGGAACITTTGCTATTATGGGTCTAAT  
TTCTTGTCTTTCAATTGCCTATTCTTATGCTAAGAATAGCGGAGTAGAGGCTTTACCAGCTGGAGTTCTATCTGTATCTGCATT  
CTTTATTTTGTCTAAGATCATCTTATATCCCTAAACAAGGTGAGGCGATTGGGGACGCTATTAGTAAAGTTTGGTTTGGAGGCC  
AAGGAATTATCGGTGCTATCATTATAGGTTTGGTAGTAGGAAGTATTTATACCTTCTTTATAAAGAGAAAAAATTGTTATTAAG  
ATGCCAGAAACAAGTCCACAAGCTATTGCCAAAACAGTTTGAAGCAATGATTCCAGCATTGTAAATTTCTTATCTTCTATGAT  
TGTATATATTTTAGCGAAGTCATTGACTAATGGCGGAACATTCATAGAAAATGATTTATTCTGCTATTCAAGTTCCGTTGCAAG  
GTTAACTGGATCTTTGTATGGTGCTATTGGAATTCATTCTTTATATCATTTTTTGTGGTGGTTTGGTGTTCATGGGCAATCGG  
TAGTAAATGGAGTAGTGACGCTCTGCTTTTATCTAATCTTGATGCTAATAAAGCTATGTTAGCCTCTGCTAATCTATCATT  
GAAAAATGGTGACATATTGTTACTCAACAATTTTAGATTCAATTTTAACTCTATCAGGTTTCAAGGATTACGTTTGGTCTTGT  
GTTGCCATGCTTTTTCAGCAAAAATCAAAACAATACCAAGCCTTAGGAAAAGTTGCAGCTTTTCCAGCAATATTTAACGTAA  
ATGAGCCAGTTGTATTGGATTTCGATTGTCATGAATCCAGTTATGTTGTACCTTTCATTCTTGTTCCTGTACTTGCAGCTGT  
GATATGATATGGAGCTATTGCAACAGGTTTCATGCAGCCATTCTCAGGGGTAACATTGCCITGGAGTACACCAGCTATTTTAT  
CAGGATTTTGGTGGTGGATGGCAAGGAGTTTACTCAGCTGGTGTATATTAGCGATGTCTACATTGGTTTATTTTCCATTCT  
TTAAAGTACAGGATCGTTTAGCTTACCAAAATGAAATCAAAACAATCTTAG

4121.2 (SEQ. ID. NO. 230)

ATGAAGAAAAAGGACTTAGTAGACCAACTAGTCTCAGAGATCGAGACGGGGAAAGTCAGGACACTGGGAATATACGGTCAT  
GGAGCTTCAGGTAAATCAACCTTTGCACAGGAATTGTACCAAGCTTTAGATTCTACTACAGTAAATTTGCTAGAGACAGATC  
CTTATATCACCTCAGGACGCCATCTGGTAGTACCAAGGACGCCCGGAATCAAAAGGTGACAGCCAGTCTGCCAGTGGCGCA  
TGAAGTGGAGAGTTTGCAGAGAGATATCCTTgCTTGCAGCGGGTATGGATGTCTTGA

4122.1 (SEQ. ID. NO. 231)

ATGAAGAAAAAGATACCTAGTCTTGACAGCTTTGCTAGCCTTGAGTCTAGCAGCTTGTTCACAAGAAAAAACAATAATGAAG  
ATGGAGAACTAAGACAGAACAGACAGCCAAAGCTGATGGAACAGTCGGTAGTAAGTCTCAAGGAGCTGCCAGAAAGAAA  
GCAGAAAGTGGTCAATAAAGGTGATTACTACAGCATCAAGGGGAAATACGATGAAATCATCGTAGCCAACAAACACTATCCA  
TTGTCTAAAGACTATAATCCAGGGGAAAAATCCAACAGCCAAGGCAGAGTTGGTCAAACATCAAAAGGATGCAAGAGGCA  
GGTTTCCCTTAAATAAACAAGGAATCCAGTATTTAGAGCTAATCAAACTCAGACCAAGCTCTATCAAGATTATGTCAACCAAGA  
TGGAAAGGCAGCAGCTGACCGTACTCTGCCCGTCTGGCTATAGCGAACACCAGACAGGCTTGGCCTTTGATGTGATTGGG  
ACTGATGGTGATTGGTGACAGAAGAAAAAGCAGCCCAATGGCTCTTGGATCATGCAGCTGATTATGGCTTTGTGTCCGTTA  
TCTCAAAGGCAAGGAAAAAGGAAACAGGCTATATGGCTGAAGAATGGCACCTGCGTTATGTAGGAAAAAGGCTAAAGAAAT  
TGCTGCAAGTGGTCTCAGTTTGAAGAATACTATGGCTTTGAAGCGGAGACTACGTCGATTAA

4125.6 (SEQ. ID. NO. 232)

ATGCGTAAATTCCTTAATTTTGTGCTACCAAGTTTGTGACCATTTCAAAAAGTCGTTAGCACAGAAAAAGGTCGTCTA  
TACTTCGAAAGAAATTTATTACCTTTCACAATCTGACTTTGGTATTTATTTTAGAGAAAAATTAAGTTCTCCCATGGTTTATGG  
AGAGGTTCTCTGTTTATGCGAATGAAGATTAGTAGTGGAAATCTGGGAAATGACTCCCAAAACAAGTTTCAATAACCGAG  
TGGCGCTTAAATAAACAAGGAATCCAGTATTTAGAGTATGAAATCATCAATTTATAGCTGCGGACAAACGATTTTATATGA  
TCAATCAGAGGTAACCTCAACAATAAAAAAAGTATGGTTAGAATCTGACTTTAACTGTACAATAGTCCTTATGATTTAAAA  
GAAGTGAATCATCCTTATCAGCTTATTCGCAAGTATCAATCGACAAGACCATGTTGTAGAGAAGGAAGAGAATTTCTACATA  
TTGATCAGGCTGGATGGGTAGCTAAAGAATCAACTTCTGAAGAAGATAATCGGATGAGTAAAGTTCAAGAAATGTTATCTGA  
AAAAATCAGAAAGATTCTTCTCTATTATGTTAAGCTAATCAAACTGACTACTGGAAAAAGGCTGGTATCAATCAAGATGAAAA  
ATGTATGCAGCCAGCGTTTGAACCTCTCTTATCTCTATTATACGCAAGAAAAATAAATGAGGGTCTTATCAGTTAGATAC  
GACTGTAAAAATACGTATCTGCAGTCAATGATTTTCCAGGTTCTTATAAACCAGAGGGAAGTGGTAGTCTCTCTAAAAAGAA  
GATAATAAAGAATAATTTCTTAAAGGATTTAATTCAGAAAGTATCAAAAGAAATCTGATAATGTAGCTCATATTTGGGAT  
ATTACATTTCAAACCAATCTGATGCCACATTCAAATCCAAGATGTCTGCCATTATGGGAGATGATTGGGATCCAAAAGAAAA  
ATTGATTTCTTCTAAGATGGCCGGGAAGTTTATGGAAGCTATTATAATCAAAATGGATTGTGCTAGAGTCTTTGACTAAAA  
CAGATTTTGATAGTCAGCGAATTGCCAAAGGTGTTCTGTTAAAGTAG  
CTCATAAAATTTGAGATGCGGATGAATTTAAGCATGATACGGGTGTGTCTATGCAGATTCTCCATTTATTCTTTCTATTTTCA  
CTAAGAATCTGATTATGATACGATTTCTAAGATAGCCAAGGATGTTTATGAGGTTCTAAAAATGA

4125.7 (SEQ. ID. NO. 233)

ATGAAAAAACAATAATGGTTTAAATAAAAATCCTTTTCTATGGTTATTTATTTATCTTTTCTTGTGACAGGATTCCAGTAT  
TTCTATTCTGGGAATAACTCAGGAGGAAGTCAGCAAACTCAACTATACTGAGTTGGTACAAGAAATACCGATGGTAATGTAA  
AAGAATTAACCTACCAACCAATGGTAGTGTATCGAAGTTTCTGGTGTCTATAAAAAATCCTAAAAACAAGTAAAGAAGAAAC  
AGGTATTCAGTTTTCACGCCATCTGTTACTAAGGTAGAGAAATTTACCAGCACTATTCTTCTCGCAGATACTACCGTATCAG  
AATTGCAAAAACCTTGCTACTGACCATAAAGCAGAAGTAACTGTTAAGCATGAAAGTTCAAGTGGTATATGGATTAATCTACT  
CGTATCCATTGTGCCATTGGAATTTCTATTCTTCTCTATTTCTATGATGGGAAATATGGGAGGAGGCAATGGCCGTAATC  
CAATGAGTTTGGACGTAGTAAGGCTAAAGCAGCAAAATGAAGAAGATATTAAGTAAAGATTTTTCAGATGTTGCTGGAGGTGA  
GGAAGAAAAACAAGAACTAGTTGAAGTTGTTGAGTCTTAAAAAGATCCAAAACGATTACAAAACTGGAGCCCGTATTCCA  
GCAGGTGTTCTTTTGGAGGGACCTCCGGGGACAGGTAACCTTTGCTTGTCAAGGCAGTCGCTGGAGAAGCAGGTGTTCCAT  
TCTTTAGTATCTCAGGTTCTGACTTTGTAGAAATGTTTGTGCGAGTTGGAGCTAGTCGTGTTCTGCTCTTTTGGAGGATGCCA  
AAAAAGCAGCACCACTATCATCTTTATCGATGAAATTTGATGCTGTTGGACGTCAACGTGGAGTTCGCTCTCGCGGAGGTAA  
TGACGAACGTGAACAAACCTTGAACCAACTTTTGATTGAGATGGATGGTTTGGAGGAAATGAAGGGATTATCGTCATCGCT  
GCGACAAACCGTTTCAGATGTACTTGACCCTGCCCTTTTGGCTCCAGGACGTTTGATAGAAAAGTATTGGTTGGTGTCTCTGA  
TGTTAAAGGTCGTGAAGCAATCTGAAAGTTTCAAGCTAAGAATAAGC  
CTTTAGCAGAAGATGTTGATTTGAAATTTAGTGGCTCAACAACTCCAGGCTTTGTTGGTGCTGATTTAGAGAATGTCTTGAAT  
GAAGCAGCTTTAGTTGCTGCTCGTCGCAATAAATCGATAATTGATGCTTCAGATATTGATGAAGCAGAAGATAGAGTTATTG  
CTGGACCTTCTAAGAAAGATAAGACAGTTTCAAAAAAGAACGAGAATTGGTTGCTTACCATGAGGCAGGACATACCATTTGT

TGGTCTAGTCTTGTGCGAATGCTCGCGTTGTCCATAAGGTTACAATTGTACCACGCGGCCGTGACGGCGGATACATGATTGCAC  
 TTCTAAAGAGGATCAAAATGCTTCTATCTAAAGAAGATATGAAAGAGCAATTGGCTGGCTTAATGGGTGGACGTGTAGCTGA  
 AGAAATTATCTTTAATGTCCAAACACAGGAGCTTCAAACGACTTTGAACAAGCGACACAAATGGCACGTGCAATGGTTACA  
 GAGTACGGTATGAGTGAAAACTTTGGCCAGTACAATGAAGGAAACCATGCTATGCTTGGTGCACAGAGTCTCTAAAAAT  
 CAATTTTCAGAACAAACAGCTTATGAAATTGATGAAGAGGTTTCGTTCAATTATTAATGAGGCACGAAATAAGCTGCTGAAAT  
 TATTCAGTCAAATCGTGAAACTCACAAGTTAATTGCAGAAGCATTATTGAAATACGAAACATTGGATAGTACACAAATTTAA  
 GCTCTTTACGAAACAGGAAAGATGCCTGAAGCAGTAGAAGAGGAATCTCATGCACTATCTATGATGAAGTAAAGTCAAAA  
 ATGAATGACGAAAAATAA

4125.10 (SEQ. ID. NO. 234)

ATGAGGGAACAGATTTTTTAAATCATTTTCTCAAGAAGGGATATTTCAAAAAGCATGCTAAGGCGGTTCTAGCTCTTTCTGG  
 TGGATTAGATTCCATGTTTCTATTTAAGGTATTGTCTACTTATCAAAAAGAGTTAGAGATTGAATTGATTCTAGCTCATGTGA  
 ATCATAAGCAGAGAAATTGAATCAGATTGGGAAGAAAAGGAATTAAGGAAGTTGGCTGCTGAAGCAGAGCTTCCTATTTATAT  
 CAGCAATTTTTCAGGAGAATTTTCAGAACGCGGTGCACGAAATTTTCGTTATGATTTTTTCAAGAGGTCATGAAAAAGACAG  
 GTGCGACAGCTTTAGTCACTGCCACCATGCTGATGATCAGGTGGAACGATTTTTATGCGCTTGATTGCGAGGAACCTCGTTG  
 CGCTATCTATCAGGAATTAAGGAGAAGCAAGTAGTCGGAGAGATAGAAATCATTCGTCCCTTCTGCAATTTTCAGAAAAAG  
 ACTTTCCATCAATTTTCACTTTGAAGATACATCAAATCAGGAGAATCATTATTTTCGAAATCGTATTCGAAATTTCTTACTTAC  
 CAGAAATTGGAAGAAAATCCTCGATTTAGGGATGCAATCTTAGGCATTGGCAATGAAATTTTAGATTATGATTTGGCAAT  
 AGCTGAATTATCTAACAAATTAATGTGGAAGATTACAGCAGTTATTTTCTTACTCTGAGTCTACACAAAGAGTTTACTTC  
 AAACCTTATCTGAATCGTTTTCAGATTGAATCTTACAAAAGCTCAGTTTGTCTGAAGTTCAGCAGATTTTAAAAATCTAAAGC  
 CAGTATCGTCAATCCGATTAATAATGGCTATGAATTGATAAAAGAGTACCAACAGTTTCAGATTGTAAATCAGTCCGCGAGG  
 CTGATGAAAGGAAGATGAACCTTGTGTACACTACAAAATCAGGTAGCTTATCAAGGATATTTATTTCTTTTGGACTTCCA  
 TTAGAAGGTAAATTAATTCACAAATACCTGTTTACGTTGAAACATCCATACACATTTCGTATCGAAAAACAGGAGATGTTT  
 TGATTAATAATGGGCATAGAAAAAACTCAGACGTTTATTTATTG  
 ATTTGAAAAATCCCTATGGAAGAGAGAACTCTGCTCTTATTATGAGCAATTTGGTGAAATTGTCTCAATTTTGGGAATTGCG  
 ACCAATAATTTGAGTAAAAAACGAAAAATGATATAATGAACACTGTACTTTATATAGAAAAATAGATAGGTAA

4126.1 (SEQ. ID. NO. 235)

ATGAAGCGTCTTCTCTTTTAGTTAGAATGGTTATTTCCATCTTTCTGGTCTTTCTCATTTCTCCTAGCTCTGGTTGGAACCTTCT  
 ACTATCAATCAAGTTCTTCAGCCATTGAGGCCACCATTTGAGGGCAACAGCCAAACGACCATCAGCCAGACTAGCCACTTTAT  
 TCAGTCTTATATCAAAAAACTAGAAACCACCTCGACTGGTTTGACCCAGCAGACGGATGTTCTGGCCTATGCTGAGAATCCC  
 AGTCAAGACAAGGTGAGGGAATCCGAGATTTGTTTTGACCATCTTGAAGTCAGATAAGGACTTGAAAACTGTTGTGCTGG  
 TGACCAAACTCTGGTCAGGTCAATTTCTACAGATGACAGTGTGCAGATGAAAACTTCTCTGATATGATGGTGAAGGATTGGTA  
 CCAAAAGGCCATTTCATCAGGGAGCTATGCCTGTTTTGACTCCAGCTCGTAAATCAGATAGTCAAGTGGGTCAATTTCTGTCACTC  
 AAGAAGTGTGATGCAAGGGAGCCAACTTGGTGTGCTTCGTTTGGATATTTCTTATGAAACTCTGGAAGCCTATCTCAAT  
 CAACTCCAGTTGGGGCAGCAGGGCTTTGCCTTCATTATCAATGAAAACCATGAATTTGTCTACCATCTCAACACACAGTTTA  
 TAGTTCGTCTAGCAAAATGGAGGCTATGAAACCTACATCGATACAGGTCAAGGTTATACTCCTGGTCACAAATCTTACGTC  
 AGTCAAGAGAAGATTGCAGGAAGTATGGACGGTGTCTGGCGTGTCTCATTGGAAAAGTTAGACCAGGTTCCGAGTCAGC  
 TCTTGTGGACCTTGTCTGGGGCCAGTGTACATCTCTTCTGTCTGTCTGCTTATGTTGGTTCACTTAAACGCTGGATTG  
 CTCCTTTGAAGGATTTGAGAGAAACCATGTTGGAATTTGCTTCTGGTGTCTCAAAATCTTCTGTCGCAAGGAAGTTGGTCT  
 GAAGTGAAGAGAAGTAACTCGCCAAATTTAATGCTATGTTGGATGAGATTGATGATGATGATGATGATGATGATGATGATGAT  
 AAACGACCCGTCAGTACCAACTTCAAGCCCTTTTCGAGCCAGATTAATCCACATTTCTCTATAACACTTTGGACACCATCATC  
 TGGATGGCTGAATTTATGATAGTCAGCGAGTGGTGCAGGTGACCAAGTCTTGGCAACCTATTTCCGCTTGGCGCTCAATCA  
 AGGCAAGGACTTGATTTGTCTCTCTGACGAAATCAATCATGTCCGCCAGTATCTCTTATCCAGAAACAACGCTATGGAGATA  
 AGCTGGAATACGAAATTAATGAAAAATGTTGCCTTTGATAATTTAGTCTTACCCAAGCTGGTCTACAACCCCTTGTAGAAAAT  
 GCTCTTTACCATGGCATTAAAGGAAAAGGAAGGTCAAGGCCATATTAACCTTTCTGTCCAGAAACAGGATTTCGGGATTGGTCA  
 TCCGATTGAGGATGATGGCGTTGGCTTCCAAGATGCTGGTGATAGTCAAGTCAACTCAACGTTGGGGGAGTTGGTCT  
 TCAAAATGTGATCAACGGCTCAAACTTCATTTTGGAGCCAATTACCATATGAAGATTGATTCTAGACCCCAAAAAAGGGACG  
 AAAGTTGAAATATATATAAATAGAATAGAACTAGCTAA

4126.7 (SEQ. ID. NO. 236)

ATGAAGCGTCTTCTCTTTTAGTTAGAATGGTTATTTCCATCTTTCTGGTCTTTCTCATTTCTCCTAGCTCTGGTTGGAACCTTCT  
 ACTATCAATCAAGTTCTTCAGCCATTGAGGCCACCATTTGAGGGCAACAGCCAAACGACCATCAGCCAGACTAGCCACTTTAT  
 TCAGTCTTATATCAAAAAACTAGAAACCACCTCGACTGGTTTGACCCAGCAGACGGATGTTCTGGCCTATGCTGAGAATCCC  
 AGTCAAGACAAGGTGAGGGAATCCGAGATTTGTTTTGACCATCTTGAAGTCAGATAAGGACTTGAAAACTGTTGTGCTGG  
 TGACCAAACTCTGGTCAGGTCAATTTCTACAGATGACAGTGTGCAGATGAAAACTTCTCTGATATGATGGTGAAGGATTGGTA  
 CCAAAAGGCCATTCATCAGGGAGCTATGCCTGTTTTGACTCCAGTCTGTAATCAGATAGTCAAGTGGGTCAATTTCTGTCACTC  
 AAGAAGTGTGATGCAAGGGAGCCAACTTGGTGTGCTTCGTTTGGATATTTCTTATGAAACTCTGGAAGCCTATCTCAAT  
 CAACTCCAGTTGGGGCAGCAGGGCTTTGCCTTCATTATCAATGAAAACCATGAATTTGTCTACCATCTCAACACACAGTTTA  
 TAGTTCGTCTAGCAAAATGGAGGCTATGAAACCTACATCGATACAGGTCAAGGTTATACTCCTGGTCACAAATCTTACGTC  
 AGTCAAGAGAAGATTGCAGGAAGTATGGACGGTGTCTGGCGTGTCTATTCGAAAAAGTTAGACCAGGTTTCGGAGTCAGC  
 TCTTGTGGACCTTGTCTGGGGCCAGTGTACATCTCTTCTGTCTGTCTGCTTATGTTGGTTCACTTAAACGCTGGATTG  
 CTCCTTTGAAGGATTTGAGAGAAACCATGTTGGAATTTGCTTCTGGTGTCTCAAAATCTTCTGTCGCAAGGAAGTTGGTCT  
 GAAGTGAAGAGAAGTAACTCGCCAAATTTAATGCTATGTTGGATGAGATTGATGATGATGATGATGATGATGATGATGATGAT  
 AAACGACCCGTCAGTACCAACTTCAAGCCCTTTTCGAGCCAGATTAATCCACATTTCTCTATAACACTTTGGACACCATCATC  
 TGGATGGCTGAATTTATGATAGTCAGCGAGTGGTGCAGGTGACCAAGTCTTGGCAACCTATTTCCGCTTGGCGCTCAATCA  
 AGGCAAGGACTTGATTTGTCTCTGACGAAATCAATCATGTCCGCCAGTATCTCTTATCCAGAAACAACGCTATGGAGATA  
 AGCTGGAATACGAAATTAATGAAAAATGTTGCCTTTGATAAATTTAGTCTTACCCAAGCTGGTCTCAACCCCTTGTAGAAAAT  
 GCTCTTTACCATGGCATTAAAGGAAAAGGAAGGTCAAGGCCATATTAACCTTTCTGTCCAGAAACAGGATTTCGGGATTGGTCA  
 TCCGATTGAGGATGATGGCGTTGGCTTCCAAGATGCTGGTGATAGTCAAGTCAACTCAACGTTGGGGGAGTTGGTCT  
 TCAAAATGTGATCAACGGCTCAAACTTCATTTTGGAGCCAATTACCATATGAAGATTGATTCTAGACCCCAAAAAAGGGACG  
 AAAGTTGAAATATATATAAATAGAATAGAACTAGCTAA

4127.4 (SEQ. ID. NO. 237)

ATGTTTTTTAAATTATTAAGAGAAGCTCTTAAAGTCAAGCAGGTTTCGATCAAAAAATTTTATTACAATTTTATCGTTTTGGTC  
 TTTTCGATCGGAAC TAGCATTACAGTTCTCGGTGTGAATGCCAATAGCTTGAATGCTTTAAGTGGATTATCCTTCTTAAACAT  
 GTTGAGCTTGGTGTGCGGGAATGCCCTAAAAAACTTTTCGATTTTGGCCCTAGGAGTTAGTCCCTATATCACCCTTCTATTGT  
 TGCCAACCTCTTGCAAAATGGATATTTACCAAGTTTGTAGAGTGGGGTAAACAAGGGGAAGTAGGTGGAAGAAAATTGAAT  
 CAAGCTACTCGTTATATTGCTCTGCTCGCTTTTGTGCAATCTATCGGGATTACAGCTGGTTTAAATACCTTGGCTGGAGCT  
 CAATTGATTA AAAACTGCTTTAACTCCACAAGTTTTCTGACGATTGGTATCATCTTAACAGCTGGTAGTATGATTGTCACCTTGG  
 TTGGGTGAGCAAAATACAGATAAGGGATACGGAAACGGTGTTCATGATTATCTTTGCCGGGATTGTTTCTCAATTCAGAG  
 GATGATTACAGGGCATCTATGTGGACTACTTTGTGAACGTCCCAAGTAGCCGTATCACTTCATCTATCAATTTTCGTAATCATTTT  
 GATTATTACTGTATTGTTGATTATTTACTTTACAACCTTATGTTCAACAAGCAGAATACAAAATTCCAATCCAATATACTAAGG  
 TTGCACAAGGTGCTCCATCTAGCTCTTACCTTCCGTAAAAAGTAAACCCTGCTGGAGTTATCCCTGTTATCTTTGCCAGTTCTGA  
 TTAATGTCAGCGCTCGGGCTATTCTTCAGTTTTTGTAGTGCCACAGGTGATGATTGGGCTTGGGTAAGGGTAGCACAAGAGATG  
 TTGGCAACTACTTCTCCAACGGTATTGCCATGATGCTTTGTTGATTATTCTCTTACATTCTTCTATACGTTTGTACAGATTA  
 ATCCTGAAAAAGCAGCAGAGACCTACAAAAGAGTGGTGCCTATATCCATGGAGTTCTGCTCGGTAAAGGTACAGAAGAATA  
 TATGTCTAAACTCTTCGTCGCTTGTCAACTGTTGGTCCCTCTTCTTGGTGTGA

4127.5 (SEQ. ID. NO. 238)

ATGGATATTAGACAAGTTACTGAAACCATCGCCATGATTGAGGAGCAAAAACCTTCGATATTAGAACCATTACCATGGGGATTT  
 CTCTTTTGGAGTATCGATCCAGATATCAATCGTGTGCGGAGAAAATCTATCAAAAAATTACGACAAAGCGCGCTAATTT  
 AGTAGCTGTTGGTGTAGAAAATTGCGGCTGAGTTGGGAATTCCTATCGTTAATAAGCGTGTATCGGTGACACCTATTTCTCTGA  
 TTGGGCGAGCGACAGATGCGACGGAACCTACGTGGTTCTGGCAAAAGCGCTTGATAAGGCTGCGAAAGAGATTGGTGTGGACT  
 TTATTGGTGGTTTTCTGCCTTAGTACAAAAAGGTTATCAAAAGGAGATGAGATTCTCATCAATTCATTCTCGCGCTTTG  
 GCTGACGGATAAGGTCTGCTCAAGTCAATATCGGCTCAACCAAGTCTGGTATTAATATGACGGCTGTGGCAGATATGG  
 GACGAATTATCAAGGAAACAGCAATCTTTCAGATATGGGAGTGGCCAAGTTGGTGTATTCTGCTAATGCTGTTGAGGACAA  
 TCCATTTATGGCGGGTGCCTTTCATGGTGTGGGGAAGCAGATGTTATCATCAATGTCGGAGTTCTGGTCTGGTGTGTGA  
 AACGTGCTTTGGAAGGATTCGTGGACAGAGCTTTGATGTAGTAGCCGAACAGTTAAGAAAACAGTCTTTAAAAATCACTCG  
 TATCGGTCAATTTGGTTGGTCAAAATGGCCAGTGAGAGACTGGGTGTGGAGTTTGGTATTGTGGACTTGAGTTTGGCACCACCC  
 CCTGCGGTGGAGACTCTGTGGCAGTGTCTTGAGGAAATGGGGCTGAGAAACAGTTGGCAGCGATGGAACGACGGCTGCCT  
 TGGCCCTCTTGAACGACCAAGTTAAAAAGGGTGGAGTGATGGCTGCAACCAAGTGGTGGTTTATCTGGTGCCTTTATCCCT  
 GTTTCTGAGGATGAAGGAATGATTGCTGCAAGTCAAAAATGGCTCTCTTAATTTAGAAAAACTAGAAGCTATGACGGCTATCT  
 GTTCTGTTGGATTGGATATGATTGCCATCCCAGAAGATACGCTGCTGAAACTATTGCGGCTATGATTGCGGATGAAGCAGC  
 AATCGGTGTTATCAACATGAAAAACAACAGCTGTTGCTATCAATCCCAAGGAAAAAGAGGCGATATGATTGAGTTTGGTGGT  
 CTATTAGGAACCTGACCCGTTATGAAGGTTAATGGGGCTTCGTCTGTCGACTTCATCTCTCGCGGTGGACAAATCCCAGCACC  
 AATTCATAGTTTTAAAAATTA

4128.1 (SEQ. ID. NO. 239)

ATGACACAGATTATTGATGGGAAAGCTTTAGCGGCCAAAATTGCAGGGGAGTTGGCTGAAAAGACTGCAAAATTAAGGAA  
 GAAACAGGTCTAGTGCCTGGTTTGGTAGTATTGTTGGTTGGGACAATCCAGCCAGCCAAGTCTACGTTTCGCAACAAGGAGA  
 GGTCAGCCCTTGGCGGTGGTTTCCGTAGCGAAGTAGTACGGGTTCCAGAGACCATTACTCAAGAGGAATTGTTAGACCTGAT  
 TGCTAAATACAATCAGGATCCAGCTTGGCATGGGATTTTGGTTCACTTCCATTACCAAAACACATTGATGAAGGCGGTT  
 CTATTGGCTATTGACCCAGAAAAGGATGTGGATGGTTTCCATCCTTAAACATGGGGCGTCTTTGGTCTGGTTCATCCAGTCAT  
 GATTCTTCGACACCGGCAGGAATTATGGAATGTTCATGAATATGGGATTGACTTGGAAAGTAAAAATGCAGTCGTCATC  
 GGTGATCCCAATATTGTCGGAACCACTATGGCCAGCTTCTTTGGCAAGAATGCAACAGTAACCTTGACTCACTCAGCTAC  
 TCATAATCTTTCCAAAGGTGGCTGCAAAAGCAGATATTTCTGGTTGTTGCAATTCGTCGTCGCAAGTTTGTGACTGCTGACTTTG  
 TCAAAACAGGTGCGGTAGTCATTGACGTTGGGATGAACCGCGATGAAATGGTAAGCTCTGTGGGGATGTTGATTATGAGGC  
 GGTGTCGCCCACTTGCTAGCCACATTACGCCAGTCCCTGGAGGTGTCGGTCTATGACCATTACTATGCTGATGGAGCAACCT  
 ATCAGGCAGCACTTAGGACATTGGATAGAAAATAA

4128.2 (SEQ. ID. NO. 240)

ATGCTAAATTTAATCGTATTCAATTTGGTGGTACTGGATTCTGTAGGAATCGGTGCAGCACCAGATGCTAATAACTTTGTCAA  
 TGCAGGGTTCCAGATGGAGCTTCTGACACACTGGGACACATTTCAAAAAACAGTTGGTTTGAATGTCCCAACATGGCTAAA  
 ATAGGTCTTGGAAATATTCCTCGTGAAACTCCTCTTAAGACTGTAGCAGCTGAAAGCAATCCAACCTGGATATGCAACAAAAT  
 TAGAGGAAGTATCTCTTGTAAGGATACTATGACTGGACACTGGGAAATCATGGGACTCAACATTACTGAGCCTTTTCGATAC  
 TTTCTGGAACGGATTCCCAAGAAATCCTGACAAAAATCGAAGAAATTCAGGACGCAAGGTTATTCGTGAAGCCCAACAAA  
 CCTATTTCAGGAACGGCTGTTATCTATGATTGTTGGACACGTGAGATGGAAACTGGAGAGTTGATTATCTATACCTCAGCTGA  
 CCCTGTTTTCAGATTGCTGCCCACGAAGACATTATTCCTTTGGATGAATTGTACCGTATCTGTGAATACGCTCGTTCGATTAC  
 CCTTGAGCGTCTGCCCCTTCTTGGTTCGATCATTTGCTCGCCCTTATGTAGGTGAACCAAGGTAACCTTCACTCGTACGGCAACCC  
 GTCGTGACTTGGCTGATCTCCATTTTCCCAACTGTTTGGATAAATTGAATGAGGCTGGTATCGATACTTATGCTGTGGGTA  
 AAATCAACGATATCTTTAACGGTGTGGTATCAACCATGACATGGGTCAACAAGTCAAATAGTCATGGAATTGATACACT  
 ATTGAAGACTATGGGACTTGGTGTGTTGAAAAAGGATTTCTCAATTCACAAACCTAGTTGACTTTGATGCCCTTTACGGCCATC  
 GTCGTAATGCTCAGGTTACCGTGATTGCTTGCATGAGTTTGTGAACGCTTACCTGAAATTATCGCAGCTATGAGAGAGAAT  
 GACCTTCTCTTGATTACTGCGGACCATGGAATGACCAACGTATGCAAGAACGGATCACACTCGGGGAATATATTCATTGTT  
 GGCCTATAGCCCTGCCTTTAAAGGAAATGGTCTCATTCCAGTAGGACATTTTGCAGATATTTACGCGACTGTTGCCGATAACT  
 TTGGTGTGGAACCTGCTATGATTGGGGAAAGTTTCTTAGATAAATTTGGTATAA

4129.2 (SEQ. ID. NO. 241)

ATGTTTATTTCCATCAGTGCTGGAATTGTGACATTTTACTAATTTAGTAGAAATTCGGCCCTTTATCCAATTTTATAGAAAG  
 GCGCAAAATTACAGGCCAGCAGATGCATGAGGATGTCAACACGATCAGGCAAAAGCTGGGACTCCTACAATGGGAGGTTTG  
 GTTTTCTTGAATTTCTGTTTGGTTGCTTTCTTTTCGCCCTATTTAGTAGCCAATTCAGCAATAATGTGGGAATGATTTTGT  
 TCATCTTGGTCTTGTATGGCTTGGTTCGGATTTTATAGATGACTTTCTCAAGGTCTTTTCGTAATAATCAATGAGGGGCTTAATCCTA  
 AGCAAAAATTAGCTCTTCAGCTTCTAGGTGGAGTTATCTTCTATCTTTCTATGAGCGCGGTGGCGATATCTGTCTGTCTTGT  
 GTTATCCAGTTCAATTTGGGATTTTCTATATTTCTTCGCTTTTCTGGCTAGTCGGTTTTTCAACAGCAGTAAACTTGACAGA  
 CGGTGTTGACGGTTTACGTAGTATTTCCGTTGTGATGTTTGTCTGCCATGAGGATTATGCTATGTGCAAGGTGAGATGG  
 ATATTCTTCTAGTATCTTGGCATGATTGGTGGTTGCTCGGTTTCTTCATCTTTAACCATAAGCCTGCCAAGGTCTTTATGG  
 GTGATGTGGGAAGTTTGGCCCTAGGTGGGATGCTGGCAGCTATCTCTATGGCTCTCCACCAAGAATGGACTCTCTTGATTATC

GGAATTGTGTATGTTTTTGAACAACCTCTGTTATGATGCAAGTCAGTTATTTCAAACCTGACAGGTGGTAAACGTATTTTCCG  
TATGACGCCTGTACATCACCATTGAGCTTGGGGGATTGTCTGGTAAAGGAAATCCTTGGAGCGAGTGGAAGGTTGACTTCT  
TCTTTGGGGAGTGGGACTTCTAGCAAGTCTCCTGACCCTAGCAATTTTATATTTGATGTAA

4133.1 (SEQ. ID. NO. 242)

TTGTTTAAAGAAAAATAAGACATTCCTTAATATTGCATTGCCAGCTATGGGTGAAAACCTTTTTGCAGATGCTAATGGGAATGGT  
GGACAGTTATTTGGTTGCTCATTAGGATTGATAGCTATTTTCAGGGGTTTCAGTAGCTGGTAATATTATCACCATTATCAGG  
CGATTTTCATCGCTCTGGGAGCTGCTATTTCCAGTGTATTTCAAAAGCATAGGGCAGAAAGACCAGTCGAAGTTGGCCTAT  
CATGTGACTGAGGCGTTGAAGATTACCTTACTATTAAGTTTCCTTTTAGGATTTTTGTCCATCTTCGCTGGGAAAGAGATGAT  
AGGACTTTTGGGGACGGAGAGGGATGTAGCTGAGAGTGGTGGACTGTATCTATCTTTGGTAGGCGGATCGATTGTTCTCTTA  
GGTTAATGACTAGTCTAGGAGCCTTGATTTCGTGCAACGCATAATCCACGCTGCCTCTCTATGTTAGTTTTTATCCAATGCC  
TTGAATATTCCTTTTTCAAGTCTAGCTATTTTGTCTGGATATGGGGATAGCTGGTGTGCTTGGGGGACAATTGTGTCTCGT  
TTGGTTGGTCTTGTGATTTTGTGGTCACAATTAATAACTGCCTTATGGGAAGCCAACCTTTTGGTTAGATAAGGAACTGTTGAC  
CTTGGCTTTACCAGCAGCTGGAGAGCGACTTATGATGAGGGCTGGAGATGTAGTGATCATTTGCCTTGGTCTTCTTTTGGGA  
CGGAGGCAGTTGCTGGGAATGCAATCGGAGAAGTCTTGACCCAGTTTAACTATATGCCTGCCTTTGGCTGCCTACGGCAAC  
GGTCAGCTGTTGGCCGCAACATCTTGACAAAGGATTGTGAAAGTGTCTATGTTGATTGAGTAAACAAACCTTTTGGCTTTCT  
CTGTTCTCATGTTGCCCTGTCTTTAGTATATATGCTTGGGTGTACCATAACTCATCTCTATACGACTGATTCTCTAGCG  
GTGGAGGCTAGTGTCTAGTGACACTGTTTCACTACTTGGGACCCCTATGACGACAGGAACAGTCATCTATACGGCAGTCTG  
GCAGGGATTAGAAATGCACGCCCTCCCTTTTATGCGACAAGTATAGGAATGTGGTGTATCCGCATTGGGACAGGATATCTG  
ATGGGGATTGTGCTTGGTTGGGGCTTGCCTGGTATTTGGGCAGGGTCTCTCTTGGATAATGGTTTTGCTGGTATTTCTACGC  
TATCGTTACCAGCGCTATATGAGCTTGAAAGGATAG

4135.2 (SEQ. ID. NO. 243)

ATGCAAACTCAAGAAAAACACTCGCAAGCAGCCGTTCTTGGCTTGCACTTACTAGCCATGTACTCAGGATCTATCCTGG  
TTCCCATCATGATTGCGACAGCCCTTGCTATTACAGCTGAGCAGTTGACCTACCTGATTTCTACAGATATCTTCATGTGTGGG  
GTGGCAACCTTCTCCAACCTCAACAAATACCTTTGGGATTGGACTCCAGTCGTTCTTGAAGTTGCATTCCAGTCGGT  
CGTCCCTTGAATTATGATTGGGCAAGCCATGGTAGTGGCGCTATGTTTGGTGGCCTTATCGCATCTGGGATTTACGTGGTTC  
TTGTTTCAGGCATCTTCTCAAAAGTAGCCAATCTCTTCCCATCTATCGTAACAGGATCTGTTATTACCACGATTGGTTTAACT  
TGATCCCTGTGCTGATTGGAAATATGGGAAATAACGTTCCAGAGCCAACCTGGTCAAAGTCTCTTGCCTGCAGCTATTACTGTT  
CTGATTATCCTCTTGGCCGCAACATCTTACCAAGGATTGTGAAAGTGTATCTCTATTTTATTGGTGTGTTGTTGGAAGTGC  
ATTGCTGCTACTATGGGCTTGGTGGACTTCTCTCTGTTGCGGTAGTCCACTTGTCCATGTCCCAACTCCACTCTACTTTGGG  
ATGCCAACCTTTGAAATCTCATCTATTTGTCATGATGTGTATCGCAACGGTGTCTATGGTTGAGTCAACTGGTGTATCTG  
GCCTTGTCTGATATCAAAAGGATCCAATCGACAGCAGCCCTTCGCAACGGATACCGCGCAGAAGGTTTGGCCGACTTC  
TCGGAGGAATCTTTAACACCTTCCCTTACACCGGATTTCACAAAACGTTGGTTTGGTTAAATTGTGAGGCATCAAAAAACGC  
CTGCCAATCTACTACGACGCTGGTTTCTGTTCTCTTGGACTGCTTCCCTAAGTTTGGCGCCCTTGCCTCAATCTCCAAAGC  
TCCGCTCCTGGTGGTGGCATGCTGGTAATGTTTGGTTTGTATCAATTCAAGGGATGCAAAATCCTCGCCCGTGTGACTTTGCT  
AACAATGAACACAACCTTCTTATCGCAGCTGTTTCAATCGCTGCAGGTGTGCGGTCTCAACAACAGTAATCTCTTTGTCAGCAT  
GCCGACAGCCTTCCAAATGTTCTTCTCAAAACGGAATCGTCGTAGCCAGCCTACTCGCTATTGCTCTCAATGCCGTATTAATC  
ATAAAAAGAAATAA

4136.2 (SEQ. ID. NO. 244)

ATGAAAGATAGAATAAAAGAATATTTACAAGACAAGGGAAAGGTGACTGTTAATGATTGGCTCAGGCTTTGGGAAAAAGAC  
AGTTCCAAGGATTTTCGTGAGTTGATTAAAACTTGTCTTAATGGAAAGAAAGCACCATAATCGTTTTGAAGAAGATGGTA  
GTCTGACATTAGAAATTAAGAAAAACATGAGATTACCTCAAGGGGATTTTTCATGCCCATAAAAATGGCTTTGGCTTTGTT  
AGTCTGGAAGGCGAGGAGGACGACCTTTTGTAGGGAATAATGATGTCAACTATGCTATTGATGGTGATACCGTCGAGGTAG  
TGATTAAAGAAAGTCGCTGACCGCAATAAGGGAAACAGCAGCAGAGCCAAATATTGATATCCTAGAACACAGTTTGACAA  
CAGTTGTGCGGCAAAATCGTTCTGGATCAGGAAAAACCTAAGTATGCTGCTATATTCTGTTCAAAAAAGCAAAATCGTCA  
ACCGATTATGTTTAAAGAAACAGCCCTAAAATTAGAAGGAACAGAAAGTTCTCAAAAGTCTTTATCGATAAAATACCAAGCAAG  
AAACATGATTTCTTTGTCGCGAGTGTTCTCGATGTAGTGGGACACTCAACGGATGTCGGAATTGATGTTCTTGAGGTCTTGA  
ATCAATGGACATGTATCCGAGTTTCCAGAAGCTGTTGTTAAGGAAGCAGAAAGTGTGCCTGATGCTCCGTCTCAAAAGGAT  
ATGGAAGGTGCTGTGATCTAAGAGATGAAATTACCTTTACCATTTGACGGTGGGATGCCAAGGACTTGGACGATGCAGTGC  
ATATCAAGGCTCTGAAAAATGGCAATCTGGAGTTTGGGGTTCATCGCAGATGTTTCTTATTATGTGACCGAGGGGTCTGCC  
CTTGACAAGGAAGCCCTTAACCGTGCGACTTCTGTTTACGTGACAGACCGAGTGGTGCCAAATGCTTCCAGAACGACTATCAA  
ATGGCATCTGCTCTCAATCCCAAGTTGACCGCCTGACCCAGTCTGCTATTAT  
GGAGATTGATAAAACATGGTCTGTGGTCAACTATACCATTACACAAACAGTTTATCAAGACCAGTTTTCGTATGACCTATAGC  
GATGTCAATGATATCCTAGCTGGCGATGAAGAAAAGAGAAAAGAAATATCATAAAATTTGATCAAGTATCGAACTCATGGCC  
AAGCTTCATGAACTTTAGAAAACATGCGTGTGAAACGTGGAGCTCTCAATTTTGTATACCAATGAAGCGAAGATTTTGTG  
ATAACAAGGTAAAGCCTGTTGATATCGTTCTTCGGCAGCGTGGTATTGCGGAGCGGATGATTGAGTCTTTATGTTGATGGCT  
AATGAAACAGTTGCCGAACATTTACGCAAGTTGGATTGCTTTTATCTATCGAATTCACGAGGAGCCTAAGGCTGAAAAGG  
TTCAGAAAGTTATTGATTATGCTTCGAGTTTGGCTTGGCGATTTATGGAACCTGCCAGTGAGATTAGTCAGGAGGCACITCAA  
GACATCATGCGTGTGTTGAGGGAGAACCTTATGCAGATGTATTGTCCATGATGCTTCTTCGCTCTATGCAGCAGGACTCGTTA  
TTCGGAGCACAATCACGGCCACTATGGACTAGCTGTGACTATTATCTCACTTACCAGTCCAAATTCGTCGTTATCCAGACC  
TTCTTGTTCACCGTATGATTCGGGATTACGGCCGTTCTAAGGAAATAGCAGAGCATTTTGAACAAGTGATTCCAGAGATTGCG  
ACCCAGTCTTCCAACCGTGAACGTCGTGCCATAGAAGCTGAGCGTGAAGTGAAGCCATGAAAAAGGCTGAGTATATGGAA  
GAATACGTGGTGAAGAGTATGATGCAAGTTGATCAAGTATTGTCAAATTCGGTCTCTTTGTCGAATTCGGAACACAGAGTTGA  
AGGCTTGATTACATCACTAATCTGCCTGAATTTTATCAATTTCAATGAGCGTGATTGACTCTTCGTGGAGAAAAATCAGGTA  
TCACITTCGAGTGGGTACGAGATCCGTATCCGTGTTGAAAGAGCGGATAAAATGACTGGAGAGATTGATTTTTCATTCGTA  
CCTAGTGAGTTTGTGATTGAAAAAGGCTTGAACAGTCTAGTCGT  
AGTGGCAGAGGGCGTGAATTCAAATCGTTCGTTCCGATAAGAAAGGAGCAACAAAGAGAAATCAGGACGCTCAAATGATAAGCGT  
AAGCATTCAAAAAAGACAAGAAGAAAAAGGAAAGAAACCTTTTACAAGGAAGTAGCTAAGAAAGGAGCCAAGCATGG  
CAAAGGGCGAGGGAAAGGTGCTGCGACAAAATAA

4137.2 (SEQ. ID. NO. 245)

ATGGGCACAACAGGATTTACAATAATTGACTTAATTAATCTTGATTGTTTATTTACTTGGCGTGTGGTTGCAGGTATCTATTTCT  
TCTAAAAAAGAGATGAAAGGAAAAGAGTTCTTTAAAGGAGATGGTTCCGTTCTTGGTATGTTACTTCGGTATCCATTTTTCG

CACAATGCTCAGTCCGATTTCCTTCTTGGGACTCGCTGGTAGCTCTTATGCAGGTAGCTGGATTTTATGGTTTGCTCAATTAGG  
GATGGTAGTAGCTATTCCTACTGACAATTCGTTTTATCTTACCTATCTTTGCACGGATAGACATCGATACGGCATATGATTACTT  
GGATAAACGTTTTAAATCTAAAGCACCTTCGTATTATTCAGCACTCTTGTATTATTTATCAATTGGGACGTATGCTATCAT  
TATGTACCTCCCATCAGCTGGTTTATCAGTATTGACAGGAATTGACATCAATATTTTGATTATTTTGATGGGTGATTGCAAT  
TGTTTATCTTATACCTGGTGGTCTAAAAATCCGTATTATGGACAGACTTTTATCAAGGTGTGATTCTGATTAGTGGTGTCTGTTT  
AGCTTTATTTGTACTGATTGCTAATATTAAGGTGGCTTTGGTGCAGTAGCAGAAACATTAGCAAACGGGAAATTCCTTGCTG  
CAAAATGAAAAAATTTTCGATCCTAATTCGTTTCAAACCTCCATCTTTTAAATTTGTGATGGGTTTCAGGCTTTACAATCTTGTCTT  
CCTATGCTTCATCTCAAGATTTGGTTCACGTTTTACTACAACACAAAAATTAAGAAACTTAATAAGATGTTGTTTCACAAAC  
GGTGTTTTGTCACTTGCAACTGCAACAGTCTTTTACTTGATTGGTACAGGCTTGTACGTAATCTATCAAGTACAAAAATGCAGA  
TAGTGCAGCTAGCAATATCCCTCAAGACCAAAATCTTTATGTACTTTATTGCATACCAAGTTACCAGTAGGTATCACAGGTTTGA  
TCTTGGCAGCGATTATGCAGCATCTCAATCAACTATTTCAACAGGTTTGAACCTCTGTTGCAACTTCATGGACATTGGATATT  
CAAGATGTCATTTCTAAAAAATATGTCAGACAATCGTCGTACGAAAAATTCACAATTCGTATCTCTAGCAGTAGGTTTATCTC  
AATTTGGTGTTCATTGTCTATGGCTCACTCAGATATTAATCTGCATACGAATGGTTCATAGTTTCATGGGACTTGTACTTG  
GTCTACTTGGTGGTGTATTTATCTTGGATTGTCTTAAAAAAGCAAAATAACAAGGTGCTTATGCAGCGCTGATTGTATCA  
ACCATCGTCATGGTATTTATTAATACTTCTTCTCCAACAGCTGTAGCTACTGGGCATATTCATTGATTTCAATCTCTGTA  
TCAGTAGTTTCAGGTTTATTTGTTATCTGTTTCTTAAAGTAAAGTATCTGCACCTAAATATACAACGATTTCATGATATTAC  
AGAAATTAAGCGGATTCAAGTTGGGAAGTTCTGCTACTAA

4138.1 (SEQ. ID. NO. 246)

ATGAAATTTAGTAAAAAATATATAGCAGCTGGATCAGCTGTTATCGTATCCTTGAGTCTATGTGCCTATGCCTAAACCAGCA  
TCGTTTCGAGGAAAAATAAGGACAATAATCGTGTCTCTTATGTGGATGGCAGCCAGTCAAGTCAGAAAAAGTGAAAACTTGACA  
CCAGACCAGGTAGCCAGAAAGAAAGGAATTCAGGCTGAGCAAAATTTGTAATCAAAATTACAGATCAGGCTATGTAACTGCA  
CAGGTTGACCACTATCATTTACTATAATGGGAAAGTTCTTTATGATGCCCTTTAGTGAAGAAGCTCTGATGAAGGATCCAAA  
CTATCAACTTAAAGACGCTGATATTGTCAATGAAGTCAAGGGTGGTTATATCATCAAGGTGCGATGGAAAAATATTATGTCTAC  
CTGAAAGATGCAGCTCATGCTGATAATGTTGCAACTAAAGATGAATCAATCGTCAAAAAACAAGAACATGTCAAGAGATAAT  
GAGAAGGTTAAGCTTAATGTTGCTGTAGCAAGGTCTCAGGACGATATACGACAAATGATGGTTATGTTCTTTAAATCCAGCTG  
ATATTATCGAAGATACGGGTAAATGCTTATATCGTTCCTCATGGAGGTCACTATCACTACATTCCCAAAAGCGATTTATCTGCT  
AGTGAATTAGCAGCAGCTAAAGCACATCTGGCTGGAAAAAATATGCAACCGAGTCAAGTAAAGCTATTTCTTCAACAGCTAGTG  
ACAATAACACGCAATCTGTAGCAAAAGGATCAACTAGCAAGCCAGCAAAATCTGAAAACTCCAGAGTCTTTTGAAGG  
AACTCTATGATTACCTTACCTAGCGCCCAACGTTACAGTAGCAAGTGGCTGGTCTTTGACCTGTCTAAGATTTACAGTCGTACA  
CCAAATGGAGTTGCGATTCCGCATGGCGACCATTAACACTTTATTCCTTACAGCAAGCTTTCTGCCTTAGAAGAAAAGATTGC  
CAGAATGGTGCCTATCAGTGGAAGCTGGTCTTACAGTTTCTACAAATGCAAAACCTAATGAAGTAGTGTCTAGTCTAGGCAGT  
CTTTCAAGCAATCCTTCTTCTTAAACGACAAGTAAGGAGCTCTCTCAGCATCTGATGGTTATATTTTAAATCCAAAAGATATC  
GTTGAAGAAAACGGCTACAGCTTATATTGTAAGACATGGTGATCATTTCCATTACATTCCAAAAATCAAAATCAAAATGGGCAAC  
CGACTCTTCAAAACAATAGTCTAGCAACACCTTCTCCATCTCTTCAATCAATCCAGGAAGCTTCACATGAGAAACATGAAGA  
AGATGGATACGGATTGTAGTCTAATCGTATTATCGCTGAAGTGAATCAGGTTTTGTCTATGAGTCACGGAGACCACAATCAT  
TATTTCTTCAAGAAAGGACTTGACAGAAGAGCAAAATTAAGGTGCGCAAAAAACATTTAG

4139.1 (SEQ. ID. NO. 247)

ATGAAAAAAGAGCAATAGTGGCAGTCATTGTACTGCTTTTGATTGGGCTGGATCAGTTGGTCAAAATCCTATATCGTCCAGC  
AGATTCCACTGGGTGAAGTGGCTCCTGGATCCCAATTTCTGTAGCTTGACCTACCTGCAAAATCGAGGTGCAGCCTTTTCT  
ATCTTACAAGATCAGCAGCTGTTATTCGCTGTCATTACTCTGGTTGTCGTGATAGGTGCCATTTGGTATTTACATAAACACAT  
GGAGGACTCATTCTGGATGGTCTTGGGTTTGACTCTAATAATCGCGGGTGGTCTTGGAACTTTATTGACAGGGTCAGTCAGG  
GCTTTGTTGGATATGTTCCACCTTGACTTTTCAACTTTGCAATTTTCAATGTGGCAGATAGCTATCTGACCGTTGGAGTGA  
TTATTTTATTGATTGCAATGCTAAAAGAGGAAATAAATGGAAATTA

4139.5 (SEQ. ID. NO. 248)

ATGAATACAAATCTTGCAAGTTTTATCGTTGGACTGATCATCGATGAAAACGACCGTTTTTACTTTGTGCAAAAGGATGGTCA  
AACCTATGCTCTTGCTAAGGAAGAAGGCCAACATACAGTAGGGGATACGGTCAAAGGTTTTGCATACACGGATATGAAGCA  
AAAACCTCCCGCTGACAACCTTAGAAGTGACTGCCACTCAGGACCAATTTGGTTGGGGACGTGTACAGAGGTTTCGTAAGGAC  
TTGGGTGCTTTTGGATACAGGCCCTTCTGACAAGGAATCGTTGTCTACTCGATATTCTCCTGAGCTCAAGGAACCTCTG  
GCCTAAGAAGGGCGACCAACTCTACATCCGTCTTGAAGTGGATAAGAAAGACCGTATCTGGGGCCTCTTGGCTTATCAAGAA  
GACTTCCAACGTTCTGCTCGTCTGCTACAACAACATGCAGAACCAAACTGGCCAGCCATTGTTTACCCTCTCAAGCTGTC  
AGGAACCTTTGTTTACCTACCAGAAAATAATATGCTTGGTTTATTCATCTAGCGAGCGTTACGCAGAGCCAGCTTTGGGGC  
AAGTATTAGATGCGCGCTATTGTTTCCGTGAAGTGGACCGCACTCTGAACCTCTCCCTCAAACACGCTCCTTTGAAATG  
TTGAAAAACGATGCTCAGATGATTTTGACTTATTTGAAAGCAATGGCGGTTTCATGACCTTAAATGACAAGTCATCTCCAGA  
CGACATCAAGGCAACCTTTGGCATTCTAAAGGTCAAGTCAAGAAAGCTTTAGGTGGTCTTATGAAGGCTGGTAAAAATCAAG  
CAGGACCAGTTTGGGACAGAGTTGATTAG

4139.8 (SEQ. ID. NO. 249)

ATGAAAGATGTTAGTCTATTTTATTGAAAAAAGTTTTCAAAAGCCGCTTAAACTGGATTGTCTTAGCTTTATTTGTATCTGTA  
CTCGGTGTTACCTTTTATTTTAAATAGTCAGACTGCAAACTCACACAGCTTGGAGAGCAGGTTGGAAGTCGATTGCAGCCA  
ACGAGAGGGCTATCAATGAAAATGAAGAGAACTCTCCCAATGTCTGATACCAGCTCGGAGGAATACCAGTTTGCTAAAA  
ATAATTTAGACGTGCAAAAAATCTTTTACGCGGAAGACAGAAATTTGACTTTTATTTAAAGAGGGCGCTGGAAAGAAAG  
CCTACTATTGTCAGTGGCAAGATGAAGAGAAGAAATTAAGTATGTAATCAAAATGACCCGACTGCTAGCCCTGGCTTTAAAT  
GGGGGTTGACCGCAACGGAAGATTTACCAAGCCCTGTATCCCTTGAACATAAAAGCACATACTTTGGAGTTTCCGACCCAC  
GGGATTGATCAGATTGTCTGGATTTTAGAGGTTATCATCCCAAGTTTGTGTGGTGTCTATTATTTTATGCTAACACAACATA  
TTTGCAAGAAAGATATCAAAATCATCTGGACACAGCTCACTTATCTGTTTCAAAAGTGACATTGCAATATCCTCTCTTGG  
AGTTGGAGTGGGATATGTAACATGTGCTGTTTATCGGAATCTGTGGCTTTCTTTCTAGTGGGAAGTGTGAAGTGGTTTGG  
GACAGTTAGATTATCCCTACCAATTTATAGCTTAGTGAATCAAGAAAGTAACTATTGGGAAAAATACAAGATGTATTATTCCT  
GGCTTGCTCTTACGTTTCTTACGCTTTATCGTCATTGTGGAAGTTGTGTACTTGTGCTTACTTTTCAAGCAAAAAATGCCT  
GTCCTCTTTCTTCACTTATGGGATTGTTGGCTTATTGTTTGGTATCCCAACCAATTCAGCCTCTTCAAGGATTGCACATCTG  
ATTCCCTTTACTTACTTGGCTTCAAGTGGAGATTTTATCTGGAAGATTACCTAAGCAGATTGATAATGTGATCTAAATTTGGAG  
CATGGGAATGGTCTTACTTCTTGCCTGATTATCTTTTGGTATTGGGAATCTATTATTGAAAGATGGGGAAGTTACAGAA  
AAAAAGAATTTTTTAAATAGATTCTAG

4141.1 (SEQ. ID. NO. 250)

ATGATGAAGTTCATATTGGATATTGTTAGTACACCAGCTATTTTAGTAGCTTTAATTGCAATCTTAGGATTAGTTCCTCAGAA  
 GAAGAAATACCTGATATTATTAAGGTTGGAATTAAGACCTTTGTTGGTTCTTAGTTGTATCTGGTGGTGCAGGAATTTGTAC  
 AAAATCTTTTAAATCCATTTGGTACCTGTTTGGACATGCTTTTCATTTATCTGGCGTTGTGCCGAATAATGAAGCAATTGTAG  
 CTGTAGCTTTAAACAATATGGCTCAGCTACTGCAATGATTATGTTTGCAGGCATGGTGTCAATATCTTAATCGCTCGTTTAA  
 CTCGATTTAAATATATTTTAAACAGGGCACCACACTCTATATATGGCATGTATGATTGCGGTCAATTTATCAGTTGCTGGCT  
 TTAGTAGCTTGCCTCTCATCTTACTAGGAGGATTAGCACTCGGTATTATTATGAGTATTTCCCGACATTTGTGCAAAAATATA  
 TGGTTCAATTAACCTGGAAATGACAAGGTAGCTTTAGGTCAATTTAGTCTTTGGGATATTGGTTGAGTGGTTTACTGGTAGC  
 CTTATCGGTGACAAATCAAAATCAACAGAGGACATTAAATTTCCAAAGAGTTTAGCTTTTTACGTGATAGTACTGTTAGTAT  
 TACTTTATCCATGGCAGTTATTTACATTATTGTAGCTATCTTTGCAGGGTCAGAATATATAGAAAAAGAAATCAGTAGTGGTA  
 CAAGTGGTCTAGTTTATGCTTTACAATTAGCAGGTCAATTTGCAGCAGGGTATTGTTATTTTAGCAGGTGTTCCGCTTATTT  
 TGGGCGAAATTTGCCAGCCTTTAAAGGTATTTAGAGCGCTTGTACCTAATTTCAAACCTGCTTTGGATTGTCCGATTGTTT  
 ATACTTATGCACCAATGCAGTTCTAATTGGATTATCTCTAGTTTGTGGTGGTTAGTAAGTATGGTAATTATGATTGCTT  
 CAGGAACGGTTGTTATCTTACCAGGTGTTGTGCCTCATTTCTCTGTGGAGCGACTGCAGGTGTCATTGGGAATGCATCTGGT  
 GGTTCTGGTGGAGCCACTATTGGAGCATTTTACAAGGTATTTAAATCAAGTTTCTTCCAGTCTTTTAAATGCCAGTTTGGGA  
 GGACTTGGTTTCCAAGGATCAACTTTCTCAGATGCAGATTTTGGTCTATCAGGAATTAATTTAGGAATGTTAAATCAATTTGG  
 CTCACAAGCAGGCATTGTGATTGGTCTTGTCTTATCTAGCAGTTATGTTTGGAGTATCCTTTATTAAGCCATCTGCAAC  
 GGAGGAATAA

4142.3 (SEQ. ID. NO. 251)

ATGATTAACAAATTTCTCTCTGCCCTTTCCGGTCAATTTCTTTTCTATCCCTATCATAACTTATTCTTTTTTCCCCTCTTCTAATCT  
 TAACATTTGGCTATCTACCCAACTATCTTGGCACAGATTTATGCCTTCCCCTTAGCTACTGCAACTATGGCTGCTATTTTAAAG  
 TTTCTTATTTTTTCTATCTTTTACAAGAAAAATAACAAATACGGTTTACTCTGGCATTTTGTCTTACTATCGCTCATA  
 TTACTATTATTCGGAACAGATAAAACCTTTCTTCTGCATCAAAATAGCACTAAAACCTTAAATTAGTAACCTGGAACGTCGC  
 TAATCAAAATAGAAGCACAAATATTGAGCGAATTTTAGCCATTTGACGCCGATATGGCTATATTCCTGAACTAGCTACCA  
 ATATCAGAGGTGAGCAAGAAAAACAGAGAAATCAAACTATGTTTTCATCAAGTTGGACTTTCTATGGCCAATGATATTTTC  
 ACTTCTCCACCTACCAATAGTGGAAATAGCTCCTGTGACTGTGATTGTCAAGAAAGTTATGGTTTCTATACAGAAGCTAAAAC  
 TTTTCATACAAACCGGTTCCGGGACAATTGTATTACATTCGAGAAAAACAAATATACCAGATATCATTGCCTTGCATCTGCGC  
 CTCTCTCGCAGGTTTAAATGGAATCTGGAAGCAAGACTTAAACATCATTCAATCAATTTGGCTTCAAAATATCCAAAGGCT  
 ATTATTGCAGGTGATTTTAAATGCAACTATGCGTCATGGAGCACTTGCAAAAATAAGCTCTCATAGGGACGCATTAATGCAC  
 TGCCACCTTTTGAAGAGGAACTTGAATAGCCAAAGTCCAAACCTTTTAAATGCAACAATAGATCATATTTTATTGCCTAAA  
 AACCACTACTATGTTAAAGATTTAGACATTGTAAGTTTCAAACTCTGATCATAGATGTATTTTACAGAAATCACATTTTA  
 A

4142.4 (SEQ. ID. NO. 252)

ATGAATCCAATCCAAGATCTTGGGCTTATGTCAGCAGAAAGCGACTGAGAAGTTTTATTTTATTTCTGATTTTATTGGTCTT  
 ATTGGCCGGAATTTACGCTGTTTACTCTGATGAAGTCCAACAAAACAGTAGAAAGCAATCTTTATAAATCACTCAATACA  
 TCTTTTTCTATTAAGAAGATAGAGAATGGTCAGACATTCAAGTTGTGAGACCTAGCATCTGTAAGCAAGATTAAGGGGCTGG  
 AAAATGTCTCTCTGAACTTGAGACGGTCGCAAACTAAAAGACAAGGAAGCAGTACTGGCGAGCAGAGCGTGGAGCGTG  
 ATGATTTATCAGCTGCAGACAATAACTTGGTTAGCTTAAACGGCTCTTGAGGATTCATCCAAGGATGTAACCTTTACCAGTTG  
 GCTTTCAATCTAAAAGAAGGGCGACACCTTCAAAAAGGGGATTCCAAGAAAATCCTTATCCACGAAGAAATTGGCTAAGAAG  
 AACGGCTCTTCCGCTTCATGACAAGATTGGCTTGGATGCTGGTCACTGTAATCTGGAAGGACAAACAGTAGAGTTTGAGA  
 TTATCGGCATCTTCTCTGTTGAGAGAACGGGTCTATGAAGTGGGGATTTTACTTCTGACTGAAATCAAGCTTTTACAGAC  
 TATGAAAGTAGCCAAACCTTTTGGGCAATAGTGAAGCTCAAGTCACTGAGCAGCAGCTTCTATGTAGAAAATCCTAAGGAAA  
 TGGACGGACTCATGAAGCAGGTAGAAAACCTTGGCCTTGGAAAATCAAGGCTACCAAGTCGAAAAGGAAAACAAGGCTTTTG  
 AACAAATCAAGACTCAGTTGCAACTTTCCAAACCTTCTGACCATCTTCTTTATGGGATGTTGATAGCAGGAGCTGGAGCC  
 TTAATCTGTTTGTCTCTCTGTTGAGAGAACGGGTCTATGAAGTGGGGATTTTACTTGCAGTTGGAAGGCAAGAGCTC  
 GATCTTCTACAATTCTGTTTAGAGGTAGTTTGGTATCTCTTGGAGCTTGTCTCCAGCATTTGTGTCAGGAAACGCAATCAC  
 AACTTACCTACTCCAACTCTACTAGCAAGTGGAGATCAGGCAAGCTTACAAGATACACTAGCCAAAGCAAGCAGTTTATCA  
 ACTAGCATCTTATCTTTTGCAGAACTCTATGTTTCTAGTTCTGCTTATCTGATGCCCTTTGTTTCTCTATTTCTTATT  
 TAGAAAAATCACGAAAGAAATTTATCATCTATTAGTTAA

4142.5 (SEQ. ID. NO. 253)

ATGTTACACAACGCATTTGCCTATGTTACAAGGAAGTTTTTCAAATCGATTGTCATCTTCTGATTATTTCTCTCATGGCGAGC  
 TTGAGTTTGGTCCGCTTGTCAATCAAGGGAGCTACTGCCAAGGCTTCTCAGGAGACCTTTAAAAATATACCAATAGCTTCTC  
 CATGCAAAATCAATCGTCGCTCAACCAAGGAACGCCCTCGTGGTGTGGGAATATCAAGGGTGAAGACATCAAAAAATCAC  
 CGAAAACAAGGCATTGAGTCTTATGTCAAACGTATCAACGCTATCGGAGATTTGACTGGATATGACCTGATTGAAACGCCA  
 GAAACCAAGAAGAAATCTCACTGCTGATCGTGCCAAGCGTTTGGAAAGTAGCTTGATGATTACAGGTGTCAATGACTCCTCTA  
 AAGAAGACAAGTTGTCTCTGGTTCTTATAAACTAGTCGAAGGAGAGCACTTAACCAACGACGACAAGGATAAAATCCTCTT  
 GCACAAGGACTTGGCAGCCAAACACGGCTGGAAGTAGGGGACAAGTTAACTGGACTTAATATCTACGATGCAGATAA  
 TGAAGAAAGGAGCCAAAGGAACAGTTGAAGTGACAATCAAGGGACTTTTGTATGGTCAATAAAGTCAGCAGTAACCTACTC  
 ACAAGAACTTTACGAAAACACAGCTATTACAGACATTCACTGCTGCAAACTTTATGGATACACAGAAGACACAGCCATT  
 TATGGGGACGCAACCTCTTTGTAACAGCAGACAAGAACTTGGATGATGTTATGAAAGAGTTGAATGGCATCAGTGGTATCA  
 ACTGGAAGCTACACACTCGTCAAGAGCTCCTCAAGACTACCAAGCTCTTGAGCAATCTATCTGTTATGTACAAGATGGCC  
 AACCTCCTCTTCTGGGGTAGCTTGAGCTTCTCAGTTCTCTCTTGCCTCTTGGCTCAGCCTTTGGATCAACGCCCGTCGCAAG  
 GAAGTGGGAATTTCTCTCTATCGGCCCTCAAGCAGGCAAGTATCTTGGGTCA  
 ATTATACACCGAATCTATCTTGATTGCTATCCCTGCTAGTTTCTGCTTACTTCTCTAGCTAATTACACTGCCCCGTGCAATTGG  
 AAACACTGTCTTGGCAATGTGAGCTTGGCAACAGGCTAGTAAGGCGGCTCAAGCCTTAACCTTGGTGGTGGT  
 GCAGAAGTAGATGGCTTTAGCAAGACCTTGTGAGCCTAGACATTTCCATTACAGATCAGACTTTATCATCATTTTGTCT  
 TGCCTTGGTTCTAGTGGTTCTCGTTATGGCGCTTGTCTCAAGCAATCTCTTAGAAAACAACCAAAAGAGCTTGTGCTGGATG  
 GTGAATAA

4144.1 (SEQ. ID. NO. 254)



ATGTCACAGGATAAACAAATGAAAGCTGTTTCTCCCTTCTGCAGCGAGTTATCAATATCTCATCGATTGTCCGGTGGGGTTGG  
GAGTTTGATTTTCTGTATTTGGGCTTATCAGGCTGGGATTTTACAATCCAAGGAAACCTCTCTGCCTTTATCCAGCAGGCAG  
GCATCTGGGGTCCACCTCTCTTTATCTTTTACAGATTTTACAGACTGTCGTCCCTATCATTCCAGGGGCTTGACCTCGGTGG  
CTGGGGTCTTTATCTACGGGCACATCATCGGGACTATCTACAATATATCGGCATCGTGATTGGCTGTGCCATTATCTTTTATC  
TAGTGGCCTATACGGAGCTGCCTTTGTCCAGTCTGTGCTCAGCAAGCGCACCTACGACAAGTACATCGACTGGCTAGATAA  
GGGCAATCGTTTGGACCGCTTCTTTATTTTATGATGATTTGGCCATTAGCCCAGCTGACTTCTCTGTATGCTGGCTGCCCT  
GACCAAGATGAGCTTCAAGCGCTACATGACCATCATCTGACCAAAACCTTTACCCTCGTGGTTTATACCTACGGTCTGA  
CCTATATTATTGACTTTTTCTGGCAAATGCTTTGA

4144.2 (SEQ. ID. NO. 255)

ATGAGAAATATGTGGGTGTAATCAAGGAAACCTATCTTCGACATGTCGAGTCATGGAGTTTCTTCTTTATGGTGATTTGCC  
GTTCCCTTTTTAGGAATCTCTGTAGGAATTGGGCATCTCCAAGGTTCTTCTATGGCTAAAAATAAAGTGGCAGTAGTGA  
CAACAGTGCCATCTGTAGCAGAAGGACTGAAGAATGTAATGGTGTTAACTTCGACTATAAAGACGAAGCAAGTGCCAAAG  
AAGCAATTAAAGAAGAAAAATTAAGGTTATTTGACCATTTGATCAAGAAGATAGTGTCTAAAGGCAGTTTATCATGGCGA  
AACATCGCTTGAAATGGAATTAATTTGAGGTTACAGGTACACTCAATGAACCTGCAAAATCAGCTTAATCGTTCAACTGCT  
TCCTTGCTCAAGAGCAGGAAAAACGCTTAGCGCAGACAAATTCATTCACAGAAAAAGATTGATGAAGCCAAAGGAAAAATAA  
AAGTTTATTCAAACAATTGCAGCAGGTGCCTTAGGATTCTTCTTTATATGATTCTGATTACCTATGCGGGTGTAACAGCTCA  
GGAAGTTGCCAGTGAAGGACCAAAATTAAGGAGTCGTTTTCTAGCATAAGGGCAAGTCACTATTTCTATGCGCGG  
ATGATGGCTCTGTCTAGTGATTTAACGCATATTTGGGATCTATGTTGTAGGTGGTCTGGCTGCCGTTTGGCTTTAAAGAT  
TTGCCATTCTGGCTTGGTATTTTGGATCACTTGGGAGATGCTATCTCACTGAATACCTTGCTCTTTATTTTATGATCAGT  
CTTTTCATGTACGTAGTCTTGGCAGCCTTCTAGGATCTATGTTTCTCGTCTGAGGACTCAGGGAAAGCCTTGTGCTCTTTG  
ATGATTTTGATTATGGGTGGTTTTTTGGAGTGACAGCTCTAGGTGCAGCTGGTGACAATCTCTCTTGAAGATTGGTCTTAT  
ATTCCTTTTATTTGACCTTCTTTATGCGGTTTTCGAACGATTAATGACTATGCGGGGGAGCAGAAGCATGGATTTCATTG  
TATTACAGTGATTTTGGCGTGGTAGCAACAGGATTTATCGGACGCATGTATGCTAGTCTCGTCTTCAAACGGATGATTTAG  
GGATTTGAAAAACCTTTAAACGTGCCCTTATCTTATAAATAG

4144.3 (SEQ. ID. NO. 256)

ATGACAGAAACCATTAATTTGATGAAGGCTCATACTTCAGTGCGCAGGTTTAAAGAGCAAGAAATTCCTCAAGTAGACTTAA  
ATGAGATTTTGACAGCAGCCAGATGGCATCATCTTGAAGAATTTCCAATCCTACTCTGTGATTGTGGTACGAAGTCAAGA  
GAAGAAAGATGCCTTGTATGAATTTGGTACCTCAAGAAGCCATTCGCCAGTCTGCTGTTTCTCTCTTTGTCGGAGATTGA  
ACCGAGCAGAAAAAGGAGCCCGACTTCATACCGACACCTTCCAACCCCAAGGTGTGGAAGGTCTCTTGATTAGTTCGGTCA  
TGCAGCTCTTGCTGGACAAAAACGCTTGTGGCAGCTGAAAGCTTGGGCTATGGTGGTGTGATTATCGGTTTGGTTCGATACA  
AGTCTGAAGAAGTGGCAGAGCTCTTAACTACCTGACTACCTATTTCTGTCTTTGGGATGGCACTGGGTGTGCCAAATCAA  
CATCATGATATGAACCGAGACTGCCACTAGAGAATGTGTCTTTGAGGAAGAATACCAAGAACAGTCAACTGAGGCAATCC  
AAGCTTATGACCGTGTTCAGGCTGACTATGCTGGGGCGCGTGCACCAAGCTGGAGTCAGCGCTAGCAGAACAGTTTGG  
TCAAGCTGAACCAAGCTCACTAGAAAAATCTTGAACAGAAGAAATTATTGTAG

4146.1 (SEQ. ID. NO. 257)

ATGTTAAAACTTATTGCTATTGTTGGAACAAATTCAAAACGTTCTACAAACCGTCAATTGCTTCAATACATGCAAAAACACTT  
TACTGACAAAGCTGAAATTGAACTTGTGAAATCAAGGCCATCTCTTCAACAAACAGCTGACAAAGCAAGTACCTGCT  
GAAATATTGGAATTTGCTGCTAAAAATCGAAGAGGAGTGGCGTTATTATCGGTACTCTGAGTATGACTACTTATTCAG  
CTGTTTGTATGAGCGCTCTTGGTGGTGTCTTATGGTATTTACCCACTTTTGAACAAACCAATCATGATTACAGGTGCTTCTT  
ACGGTACGCTTGGTTCATCTCGTGCCCAATTGCAACTTCGTCAAACTTTGAATGCTCCTGAAATCAAGGCAAAATGTTCTTCCA  
GATGAATCTTGTCTTCACTCTTCAAGCATTAAACCAAGTGGCGACTTGGTTGACCTTGATTTCAAGAAATTGGA  
TGCCATCTTTGATGACTTCCGTATCTTTGTAATAATCACAGAAAAATTACGTAATGCACAAGAATTACTTCGCAAGATGCTG  
AAGACTTTGACTGGGAAAAATTTGTAA

4146.2 (SEQ. ID. NO. 258)

ATGAATACCTATCAATTAAATAATGGAGTAGAAATTCAGTATTGGGATTGGAACCTTTAAGGCTAAGGATGGAGAAGAAG  
CCTATCGTGCAGTGTAGAAAGCCTTGAAGGCTGGTTATCGTCATATTGATACGGCGCGGATTTATCAGAATGAAGAAAGTGT  
TGGTCAAGCAATCAAGATAGCGGAGTTCCACGTGAAGAAATGTTTCGTAACCTACCAAGCTTTGGAATAGTCAGCAAAACCTAT  
GAGCAAACTCGTCAAGCTTTGGAATAATCTATAGAAAACTGGGCTTGGATTATTTGGATTGTATTTGATTTCATTGGCCGAA  
CCCCAAACCGCTCAGAGAAAAATGACGCATGGAATACTCGCAATGCGGAAGTTTGGAGAGCGATGGAAGACCTCTATCAAGA  
AGGGAATAATCCGTGCTATCGGCGTTAGCAATTTCTTCCCATCATTTGGATGCCTTGTGTTGAACTGCAACTATCGTCTCTG  
CGGTCAATCAAGTTTCGCTTGGCGCCAGGTGTGTATCAAGATCAAGTCGTAGCTTACTGTGCTGAAAAGGGAATTTATTGGA  
AGCTTGGGGGCTTTTGGACAAGGAGAAGTGTGATAGCAAGCAAGTCCAAGAAATAGCAGCAAAATCACGAAAAATCGGT  
TGCTCAGATAGCCTTGGCCTGGAGCTTGGCAGAAGGATTTTACCACCTTCCAAAACTGTGCACAACCTCTCGTATTCAGCTA  
ATCTTGATTGCTTTGGAATTGAAGTATGAGGAGAGAGAAACCTTAAAAACGATTGCTGTTCAATCGGGTGTCTCCACG  
AGTTGATGATGTGGATTCTAG

4147.1 (SEQ. ID. NO. 259)

ATGAGGTGCAAAATGCTTGATCCAATTGCTATTCAACTAGGACCCCTAGCCATTCTGTTGGTATGCCTTATGTATTGTGACAGG  
CTTGATTCTTGGGTTTATTTGACCATGAAAGAAGCACCTAGAAAGAAGATCATACCAGACGATATTTAGATTATCTTAG  
TAGCCTTTCCCTTGGCTATTTTAGAGCTCGTCTCTACTATGTTATTTCCGATTGATTACTATAGTCAGAAATTTAGGAGAGA  
TTTTTGCCATTGGAATGGTGGTTTGGCCATTTACGGTGGTTGATAACTGGGCTCTTGTGCTCATATCTTTGCTAGCCGTA  
AACTCATCAATACTTGGGATTTCTAGATATTGCGGCGCCTAGCGTTATGATTGCTCAAAGTTTGGGGCGTTGGGGTAATTTT  
TTTAAACGAAGAAGCTTATCGTGCAACAGTGGATAAATCTGGATTATCTACCTGGCTTATCCGTGACCAGATGTATATTGAGGG  
GAGCTACCGTCAACCGACTTTCTTTATGAGTCTCTATGGAATCTGCTTGGCTTGGCTTGGCTTGGCTTGGCTTGGCTTGGCT  
GAAGAGTCTCAGACGAGGTATATACGGCCTTTACTTGATTGTTGGTATGGTTTCGGTCTGATGGTTTCAAGGATGCGGAA  
CAGATAGTCTCATGTTCTTGGCTTTCGAGTGTCCCAATGGCTGTCAAGTTGCTTATCGGTCTCGGTATAATGATCGTTATTT  
ATCAAAATCGAAAGAAGGCCCTTACTATATTACAGAGGAGGAAAACTAA

4147.2 (SEQ. ID. NO. 260)

ATGGGTAAATTATCTCAATCCTTTTAGGAACCGTTTCAGGTGCAGCTCTTGCCTTGTTTTAAACAAGTGATAAGGGCAACA  
AGTTTGCAGTCAGGCTCAAGATTTTCTAGATGATTTGAGAGAAGATCCGGAGTATGCCAAGGAGCAAGTCTGTGAAAACTG



ACAGAAGTTAAGGAGCAGGCTACAGATTTTGTCTGAAAAACAAAAGAACAGGTTGAGTCAGGTGAAATCACTGTGGACAGT  
ATACTTGCTCAAACCTAAATCCTATGCTTTTCAAGCGACAGAAGCATCAAAAAATCAATTAATAATCTCAAGGAGCAATGGC  
AAGAAAAAGCCGAAGCTCTTGATGACTCAGAAGAGATTGTGATTGATATAACAGAAGAATAA

4147.3 (SEQ. ID. NO. 261)

ATGAAAACTAAATTGATCTTTTGGGGCTCTATGCTCTTTCTCCTCTCCCTCTCCATCCTTCTGACCATTTATCTGGCTTGGATT  
TCTATCCTATGGAGATTCACTGGCTAAACTTAACGAATCGAGTCTATCTAAAAACCAGAAACCATTCAATACAATTTTCATATC  
TTGATGAATTAATCTGACCAATCCTTTTAGTCAGGTTTACAGATGCCTGATTTTCGTTCGTGACGAGCTGGTCTGACCATTTT  
GCAGTGGTCAAGAATCTCTTTCAITTTGGTTAGCTAGTAGCTCTAGTGACACTGCCAAGTTTCTATGTCTTTGTCAATAGGATT  
GTGAAAAAGGACTTTTGTCTCTTTATCGAAAAAGTCTCCTGGCTCTAGTAGCTTACCTGTGATGATTGGACTTGGGGGAGT  
TTTGATTGGTTTGGACCAATCTTTACTCTTTTCCATCAAATTTCTTTTGTGGGAGATGATACCTGGCTTTTGTATCCAGCCAA  
GGATCCTGTTATTATGATTTTCCAGAGACCTTCTTCTCATGCCTTCCCTCTTTTGTCCCTCTATGAAAACTTCTTTGGC  
TATCTGTATCTGAAAAATCGTAGGAAGTGA

4149.1 (SEQ. ID. NO. 262)

ATGACTTATCATTTTACTGAAGAATACGATATTATTGTAATTGGTGGGGACACGCTGGGGTTGAGGCTTCTTGGCCGCTAG  
CCGTATGGGCTGTAAGGTCTGCTTGGCACCATCAATATTGAAATGCTGGCTTTCATGCCTTGTAAATCCCTCTATCGGTGGTTC  
TGCCAAGGGGATTGCTGCGGTGAAGTCGATGCCCTCGGTGGCGAGATGGCCAAAACATTGACAAGACTTACATCCAGATG  
AAGATGCTAAACACAGGGAAGGGGCCAGCTGTCCGTGCCCTTCGTGCGCAGGCTGACAAGGAACCTTACTCTAAGGAGATG  
CGCAAGACGGTTGAAAAACCAAGAAAACTGACCCTTCGTCAAACCATGATTGATGAGATTTTGGTGGAAAGATGGCAAGGTTG  
TCGGTGTGCGTACAGCCACCCATCAAGAATATGCTGCTAAGGCTGTTATTGTGACGACAGGGACTGCTCTCCGTGGGGAAAT  
TATCATCGGAGACCTCAAGTACTCATCAGGTCTTAACACAGCTTGGCTTCTATTAACCTAGCTGACAATCTCAAGGAATCG  
GTCTCGAAATCGGTGCTTTCAAGACAGGAACCCCTCCACGTGTCAAAGGCTTCTTCTATCAATTACGATGTGACAGAAATTCAG  
CCAGGAGACGAAGTGCCTAATCATTTCTCATACACTTCACGTGATGAGGATTATGTCAAGGACCAAGTACCATGCTGGTTGA  
CCTATACCAATGGTACCAATCATGAGATTATCCAAAACAACCTCCACCGTGGCGCTATGTTTACAGGTGTGGTCAAGGGAGT  
GGGGCCTCGTTACTGTCCGTGATTGAAGACAAGATTGTGCGCTTTCGGGACAAGGAACGTCACCAACTCTTCTTGAGCCA  
GAAGGGCGCAATGATGAGGAAGTCTATGTGCAAGGACTTTCAACAGCTCTGCCTGAGGATGTCCAGCGTGACTTGGTGCATT  
CCATCAAAGGTTTGGAAAAATGCAGAGATGATGCGGACAGGTTATGCTATTGA  
GTATGATATGGTCTTGCCTCATCAGTTGCGTGCGCAATTTGGAAACCAAGAAAAATCTCAGGTCTCTTCACTGCTGGTCAGACAA  
ATGGAACATCAGGTTACGAAGAGGCAAGGCCAAGGGATTATCGCGGCTGTAATGCGGCTCTGAAAAATCCAAGGCAAGC  
CTGAATTGATTTTGAAGCGCAGTGATGGTTATATCGGGGTGATGATCGACGACTTGGTGACCAAGGGAACCATGAAACCTA  
CCGTCTCTTGACCAATGCTGCTGAATACCGTCTCATTTCTGCTCATGACAATGCTGATATGCGCTTGACTGAGATGGGACCGG  
AGATTGGCCTTGTGGACGATGAACGCTGGGCTCGTTTGAATCAAGAAAAATCAATTTGATAATGAGATGAAGCGCCTAGA  
CAGTATCAAACTCAAGCCAGTCAAGGAAACCAATGCCAAGGTTGAGGAGATGGGCTTCAAACCTTGACCGATGCAGTGAC  
AGCCAAGGAATTCCTTCGCGCTCCAGAAGTTTCTTACCAAGATGTGGTGGCCTTCACTGGACAGCTGCAGAAGACTTGGAT  
GACAAGATTATCGAATTGATTGAAACAGAAATCAAGTATGAAGGCTATATTTCCAAAGCCATGGACCAAGGTTGCCAAGATGA  
AACCGATGGAAAGAAACGCATTCCGGCCAATATCGACTGGGATGACATTGATTCTATCGCAACCGAAGCCGTCAGAAGTT  
CAAACCTCATCAATCCAGAAACCATCGGCCAAGCCAGCCGATTTTCGGGAGTAAACCCAGCAGATATTTCTATTTTGATGGT  
TATCTGGAAGGTAAAAATCGTAGTATTTCTAAAACTCTTCAAAAAATCAAAATGA

4149.2 (SEQ. ID. NO. 263)

ATGAAAGTATTAGCTTTTGATACGTCCAGCAAGGCTCTTTCTCTGGCTATTTTAGAGGATAAGCAGGTTCTTGGCGAGACGAC  
GATTAATATTAAGAAAAATCACAGTATTACTCTTATGCCTGCCATCGATTTTTTATGGCAAGTTTGGATTGGACACCCAAAGG  
ATTTGGACCGAATCGTGGTACGTGAAGGGCCGGGTAGCTATACAGGCTTGCGAATTTGCGGTAGCAACTGCTAAGACCTTAGC  
TCACACCCTGAACATCGAGTTGGTTGGTATGTGAGTCTCTTGGCTCTGGTCCCCATCAACAAGAAAGGTTTGTGTCCTCT  
TGATGGATGCGCGTCCGCAATAATGTTTATGCAAGGATTTTATGAAATGCCAAACCTGTCAATGGCAGAAAGCGCACCTATCTTT  
GAAGAGGTGCTAGAAAAAGTCAAGGGTACTAGTCAGGTAACCTTTGTGCGGAGAAGTTGGCCCCCTTTGTTGAGCAGATTCAAA  
AACACTTGGCAAGGACTGATTACAAAGAAACATTTGCCAATGCAGCTAATCTAGCTCTTTTGGCCTGGGACAAGGAAGCAGA  
CTCCTTGCAATTTTGTGCGCAATTACCTCAAACGAGTCCGAGGCTGAGGAAAACTGGCTCAAGAACCATACCGAGTCTGGC  
GAGTCTTACATTAACGCCTATGA

4149.3 (SEQ. ID. NO. 264)

ATGATAGAAATCAAGCGAATTCACAACAGCCTGACCTAGCTCAAGCCATCTACGCTGTTATGGCAGCTGTTTACCTAGTCA  
GTCCTTGGACTCTGGAGCAAATCCAAGCAGATCTGTCCCAAGACCAGACTTGGTATGCATTGGCTTATGATGGGGCAGAAGT  
GATTGGATTTCTAGCTGTGCAGGAGAATCTTTTGAAGCAGAAGTCTGCAAAATCGCTGTCAAAGGAGCTTATCAGGGTCAG  
GGGATTGCGTCagCCTTGTGTTTGTCTCAATTGCGGACAGACAAGGAAATTTTCTCGAAGTCAGACAGTCAAATCAACGAGCGCA  
AGCATTTTACAAGAAAGAAAGATGACAGTTATCGCTGAGCGAAAGGCCTACTACCATGACCCAGTCGAGGACGCCATTATC  
ATGAAGAGAGAAATAGATGAAGGATAG

4152.2 (SEQ. ID. NO. 265)

ATGACAAAACAAGTCTTATTAGTGGATGATGAAGAACACATTCTGAAATTGCTTGACTACCATTAAAGTAAGGAAGGCTTTT  
CTACTCAATTGGTGACAAATGGACGGAAGGCCTTAGCTTTGGCAGAAACAGAACCCCTTTGATTTTATCTTGCTTGATATCATG  
TTACCACAATTAGATGGCATGGAAGTTTGTAAAGCGCTGAGAGCCAAAGGCGTCAAACTCCAATTATGATGGTTTCTGCGA  
AAAGTGATGAATTTGATAAGGTTTGGCCTTGGAAATTAGGGGCTGATGACTACCTGACCAAGCCTTTTAGCCCTAGAGAATT  
GCTGGCGCTGTCAAGGCTGTCTCAGGCGAACTAAAGGAGAACAAAGAGGAGATGATTCAGATAATATCGCTGACGATTC  
TTGGCTATTTGGGACCTTGAAAGTATACCCTGAGCGTCATGAAGTCTCAAGGCGAATAAGTTACTGAGTTTGACCCCAAAA  
GAATTTGAAAGCGATAAAAAATCCGTTTGTGAAATTTTCAAAGTTTCGAAAGTAACCGCCAATAA

4154.1 (SEQ. ID. NO. 266)

ATGACTACTTTTAAAGATGGATTTTATGGGGTGGTGTGCTGTGCTCATCAACTTGAAGGTGGATGGCAAGAAGGTGGCA  
AGGGAATTAGTGTGCTGATGTTATGACTGTGCTGCTCATGAGTAGCTCGTGAAATTTACTTTGGGAGTTTATAGGGGTAA  
TATTATCCAAATCATGAGGCGATAGATTTTATCACCGTTATAAAGAAGATATAGCACTTTTGTGTAATGGGATTCAAGTG  
CTTCCGTACCTCTATTGCATGGACACGTATCTTTCCAAAAGGTGATGAGTTAGAGCCGAATGAAGAAGGATTACAGTTTATG

ATAATCTTTTGTATGAATGCTTAAAGAATGGTATTGAACCTGTCATCACTCTATCTCATTTTGAATGCCTTATCACTTAGTGA  
CCGAATATGGTGGTTGGAAAAATAGGAAATGATTGATTTCTTTGCTCGTTTTGCAGAAGTCGATTAAACGTTACAAAGAT  
AAGGTTAAATATTGGATGACTTTCAATGAAATCAATAATCAAGCGAATATCAGGAAGATTTTGCACCATTACTAACTCAG  
GTATTGTATATGAGGAAGGTGATAATAGAGAAGCAATTATGTATCAAGCAGCACATTACGAATTAGTTGCTTCTGCACGAGC  
TGTAAAAAATGGTCATGAGATTAAATCCAGATTTTCAAATAGGTTGTATGATTGCGATGTGTCCAATTTATCCAGTTACTTGCA  
ATCCTAAGGATATCTTAATGGCAATGAAAGCTATGCAGAAGCGTTATTATTTGCTGATGTGCATGTTTTAGGTAAATATCCT  
GAGCATATTTTCAAGTATTGGGAACGAAAAGGTATTTCAAGTTGATTTTACTGCCCAGGATAAAGAAGATTACTTGGTGGGA  
CTGTAGATTACATTGGTTTCAGTTACTATATGTCCTTTGCTATCGACTCATCGTGAAAATAATCCTTATTTTGATTATCTTG  
AAACAGAAGATTTAGTGAAAAATAATTATGTTAAGGCTTCTGAATGGGAGTGGCAAATTGATCCAGAAGGTTTGGCTTATGC  
GTTAAATTGGTTTACAGACCACTATCACTTACCCTCTTATTGTTGAAAATGGTTTTGGAGCTATAGATCAAGTTGCAGCAG  
ATGGTATGGTACATGATGATTATAGAATTGAATATCTAGGTGCCCATATTCGTGAAAATGAAAAAGGCTGTAGTTGAAGATGG  
TGTGATTTAATGGGTTATACTCCATGGGGATGATTGATTTGGTTTCAGCTGGTACCGGTGAAAATGCGGAAACGTTATGGCT  
TTATTTATGTAGATAAAGATGATAATGGGAAGGGAAGTTATAATCGTTCCCGGAAAAATCTTTTGGCTGGTATAAGGAAGT  
TATTCATCTAACCGTGAATCAGTAGAATAG

4154.2 (SEQ. ID. NO. 267)

ATGGATCAACAAAACGGGTTGTTTGGTTTTCTTGAAAACCATGTTATGGGACCAATGGGCAAACCTTGCTCAGTTAAAGTAGT  
ACGTGCTATCACGGCTGCAGGTATGGCTGCTGTACCATTACTATTGTAGGATCAATGTTTTGGTATTACGATTGTTGCCACA  
AGCTTTCTCATTTTGGCCAATTTGTCGAGATATTTCTCTGTTCTATTGATAAATTCACATCACTTTACACGTTGAATGCAAACTA  
TGCGACTATGGGTTCTCTATCTCTTTATTTCTGTTCTATCACTTGCATATGAATTGACAAAAATTTATGCAGAGGAAGAAGAAC  
TCAATATGAATCCTCTTAATGGTGCCTTGCTTGCCTTGATGGCTTTTGTCTATGACAGTACCGCAAATCATTTTGTATGGTGGAA  
TGATGAAGACTGTGACAAGTCTAAAAGAAGGTGCAGTAATTGCAGATGGATGGGCAATGGGAAATGTAGTCGCACGTTTGGT  
GGACAACAGGGATTTTACCAGCAATCATTATGGCAATTGTGACTGTTCTTATTATCGTATGTGTGTTAAACATGTTGGGT  
ATTAATAATGCCTGAAGCTGTTCCAGAAGGAGTTTCTCGTGGATTACCGCTTTGGTCCGGGATTTGTTGTTGCATTTGTTGTT  
ATCTTTATCAACGGCTTCTTGTAGCAATGGGAACAGATATTTTAAAGTCATTGCAATTCCTATTTGGTTTGTATCCAACTCTG  
ACTAATTCGTGGATTGGTTAATGATTATTTATCTATTTGACTCAACTACTTGGATTGTAGGTATCCACGGTCCGAACATTGGTT  
TTTGCAATTTTGTAGTCCAATTTGCTCTTGTCAACATGGCTGAAAATGCTTGGCGGGCACTTCGCTGTTGCAGGTGAATTTTCT  
AATATGTTTGAATTGCAGGTGGTTCTGGTGCAACTTTAGGACTATGTTTATATATTGCTTTTGCCTCTAAATCTGAACAGCTT  
AAAGCAATAGGACGAGCATCTGTAGTTCCAGCCTTATTTAATATTAATGAACCATTAAATTTTGGATTACCTATTATCTATAA  
TCCAGCCTTGGCTATACCATTTATTTAGCACCAATGGTTACTGCTACTATTTTATACGTAGCGAATCTTAAACTTTATTA  
GCCAATTATCGCACAGGTTCCATGGCCAACCTCCAGTAGGGATTGGAGCTTTCTTAGGGACAGCAGATCTTCGAGCTGTATTA  
GTTGCTCTAGTATGTGCAATTTGCAGCATCTCTAGTCTATCTTCCATTCATCCGTGTATATGATCAAAAAATTGGTGAAAGAAGA  
GCAAGGTATCTAA

4155.1 (SEQ. ID. NO. 268)

ATGAAAAAATTTATGTAAGTCCAATTTTCTTATCTAGTAGGATTGATTGCGTTTGGAGTCTTATCCACTTTTCATTATTTT  
GTTAATAATAATCTGTTGACGGTTTTAAATTTGTTCTTTTGTAGGAGGCTATGTTTTTTTATTAAGAACTGAGAGTGCAAT  
TATACAAGGAGTGATGTAGAACAGATACAGTATGTAAACCACCAAGCGGAAGAAAGTTTGACAGCTCTATTGGAACAGATG  
CCTGTAGGTGTTATGAAATTGAATTTATCTTCTGGAGAGGTTGAGTGGTTTAAATCCCTATGCTGAATTGATTGACCAAGGA  
AGATGGTGATTTGATTTAGAAGCTGTTCAAACGATTATCAAGGCTTCAGTAGGAAATCCGCTACTTACTGCAAGCTTGGTG  
AGAAGCGTTATGCTGTTCAATGATGCTTTCTCCGGTCTTTGTTGATTGTAGATGTATCCAGGGAACAAGCCATAACAGAT  
GAATTGGTAACAAGTAGACCAGTGATTGGGATTGTCTCTGTGGATAATTATGATGATTGGAGGATGAAACTTCTGAGTCAG  
ATATTAGTCAAAATCAATAGTTTGTAGCTAATTTATATCAGAGTTTTCAGAAAAACACATGATGTTTCTCTCGTCCGGTAAAT  
ATGGATCGATTTTATCTATTTACTGACTACCGGTGCTTGAAGGCTTTCAGATGAATGATAAATTTCTGTTTATTGATGCTTTCAGA  
GAAGAGTCGAAACAGAGACAGTTGCCCTTGACCTTAAGTATGGGATTTTCTTATGGCGATGGAAATCATGATGAGATAGGGA  
AAGTTGCTTTGCTCAATTTGAACCTTGGCTGAAGTACGTGGTGCCGACCAGGTGGTTGTTAAGGAAAACGACGAAACGAAAAA  
TCCAGTTTATTTTGGTGGTGGGCTGCTGCTTCAATCAAGCGTACACGGACTCGTACGCGCGCTATGATGACAGCTATTTCAG  
ATAAGATTCCGAGTGATGATCAGGTTTTTGTAGTCGGTACAAAAATTTAGACATGGATGCTTTGGCTAGCTGTAGTTAGT  
CAGTTGTTCCGACGAATGTGATTGAAAATAGCTATGCTCTTATGATGAAGAACAATGTCTCCAGATATTGAACGAGCTGT  
TTCAATTCATAGAAAAAGAAAGGAGTTACGAAGTTGTTGCTGTTAAGGATGCAATGGGGATGGTGACCAATCGTTCTTTGTTG  
ATTCTGTAGAGAAAACAAGACAGCCTTAACATTAAGAAATTTATGATTATTTACCCAAACCATTTGTTATTGACCA  
CCATAGAAGGGATCAGGATTTTCCAGATAATGCGGTTATTACTTATATCGAAAGTGGTGCAAGTAGTGCCAGTGAGTTGGTA  
ACGGAATTGATTCAGTTCCAGAATTCTAAGAAAAATCGTTTGTAGTCGTATGCAAGCAAGTGTCTTGATGGCTGGTATGATGTT  
GGATACTAAAAATTTACCTCGCGAGTAAGTACGCGACATTTGATGTTGCTAGCTATCTCAGAACGCGCGGAAGTGATAGT  
ATTGCTATCCAGGAAATCGCTGCGACAGATTTTGAAGAAATATCGTGAGGTCATGAACTTATTTACAGGGGCGTAAATTAG  
GTTGAGATGTAATAAGCAGAGGCTAAGGACATGAAATGCTATGATACAGTTGTTATTAGTAAGGCAGCAGATGCCATGTT  
AGCCATGTCAGGTATTGAAGCGAGTTTGTCTTGCAGAAGAATACACAAGGATTTATCTCTATCTCAGCTCGAAGTCGTAGTA  
AAGTGAATGTACAACGAGTTATGGAAGAGTTAGGCGGTGAGGCCACTTTAATTTGGCAGCAGCTCAAATTAAGATGTAAC  
CTTGTCAGAAGCAGGTGAAAAACTGACAGAAATTTGATTAAATGAAATGAAGGAAAGGAGAAAGAAGAATGA

4156.1 (SEQ. ID. NO. 269)

ATGAAAGAGAAAAATATGTGGAAGAATGTTGAATCGTGCAGGCTGGATTTTGGTCTTTTACTTGCCGCTCTTTTATATCA  
GGTTCCCTAGTGGTTACCTCTATTTTGACTTTAAAGAAAGTAGCCCTGCTACAGTCAGGGCTGATAGTTGCTGGCCTTTCAA  
TTGTGGTTCTGGCTCTATTTATTTATGGGAGCTCGTAAACCAAGTTAGCTAGTTTAAATTTTCTTTTATAGACTAAAGATT  
TGGCAGCTTTGGGCTTGAGTTATCTAGTTATTGTCGGGTCAAATATACCTTGGTCCATTTATTGCAACTGCAAAATGAGAGC  
ACAACAGCTAACCACTCAGATTAAATGATATGGTTCAAAATAGTTCTGTTGATTTCAGTTTCTTCTGCTAGCCTTGCTTGTCT  
CCGATTTGTGAGGAAATCTTGTGTCGTGGGATTGTTTCTAAAAAGATTTTCCGAGGCAAGGAGAACTTGGGATTGTAGTCG  
GTACGATTGTGTTTGTCTTATTGTCATCAACCAAGTAATTTACCTCTTTATTTGATTATGGAGGTATGTCGACAGTTCTATCTT  
GGACAGCTTACAAAGCAACGTTTGGAAATGTGCGATCTTCTTCCACATGATTGTTAATGGGATTGTTGTTGTTGCT  
CTTGTGGTGATTATGAGTCGGACATTAGGAATTTCTGTTTAAATGAAAGAGAAAAATATGTGGAAGAATGTTGAATCGTG  
CAGGCTGGATTTTGGTCTTTTACTTGCCGCTCTTTATATCAGGTTCCCTAGTGGTTACCTCTATTTGACTTTAAAGAAAG  
TAGCCCTGCTACAGTCAGGCTGATAGTTGCTGGCCTTTCAATTTGGTGTCTGGCTCTATTTATTTGGAGCTGATAAAACC  
AAGTTAGCTAGTTTAAATTTTCTTTTATAGAGCTAAAGATTGGCACGTTTGGGCTTGAGTTATCTAGTTATTGTCGGGTCA  
AATATACCTGGTTCCATTTTATGCAACTGTCAAATGAGACGACAACAGCTAACCAAGTCTCAGATTAATGATATGGTTCAAAA  
TAGTTCGTTGATTTCCAGTTTCTTCTGCTAGCCTTGCTTGTCCGATTTGTGAGGAAATCTTGTGTCGTGGGATTGTTCTCTAA

4156.4 (SEQ. ID. NO. 270)

4157.2 (SEQ. ID. NO. 271)

4158.1 (SEQ. ID. NO. 272)

Q6

4158.3 (SEQ. ID. NO. 274)

**09/769,787**

TCAGAGTCTTTTAAAGATGTTTAAATAGATATCTGGTATGACAGGGACAGGTAAGGTTCGCGAAAAAGAGTTTATTGAACT  
TACAAATATGTCTGTAGTACGCATTCCAACCAATCGTCCGAGACAACGGA  
TTGACTATCCAGATAATCTATATCACTTTACCTGAAAAAGTGTATGCATCCTTGGAGTACATCAAGCAATACCATGCTAAG  
GGAAATCCTTTACTCGTTTTTGTAGGCTCAGTTGAAATGTCTCAACTCTATTCTGCTCTCTTGTTCGTGAAGGGATTGCCCAT  
AATGTCTAAATGCTAATAATGCGGCGCTGAGGCTCAGATTATCTCCGAGTCAGGTCAGATTGGGGGCTGTGACAGTGGCTA  
CCTCTATGGCAGGACGTGGTACGGATATCAAGCTTGGTAAAGGAGTCGCAGAGCTTGGGGGCTTGATTGTTATTGGGACTGA  
GCGGATGGAAGTCAGCGGATCGACCTACAAATTCGTGGCGCTTCTGGTCTGCAGGGAGATCCTGGTATGAGTAAATTTTT  
GTATCCTTAGAGGATGATGTTATCAAGAAATTTGGTCCATCTTGGGTGCATAAAAAAGTACAAAGACTATCAGGTTCAAGATA  
TGACTCAACCGGAAGTATTGAAAGGTCTGTAATACCGGAAACTAGTCGAAAAGGCTCAGCATGCCAGTGATAGTCTGGAC  
GTTACGACGCTCGTCAGACTCTGGAGTATGCTGAAAGTATGAATATACAACGGGATATAGTCTATAAAGAGAGAAATCGTCT  
AATAGATGGTCTCTCGTACTTAGAGGATGTTGTTGGGATATCATTGAGAGATATACAGAAGAGGTAGCGGCTGATCACTAT  
GCTAGTCGTGAATATTGTTTCACTTTATTGTGACCAATATTAGTTTCATGTTAAAGAGGTTCCAGATTATATAGATGTAAC  
GCAAAAACCTGCAGTTTCGTAGCTTTATGAAGCAGGTGATTGATAAAGAACTTTCTGAAAAGAAAGAAATTACTTAATCAACATG  
ACTTATATGAACAGTTTTTACGACTTTCAGTCTTAAAGCCATTGATGACAACCTGGGTAGAGCAGGTAGACTATCTACAACAG  
CTATCCATGGCTATCGGTGGTCAATCTGCTAGTCAGAAAAATCCAATCGTAGAGTACTATCAAGAAGCCTACGCGGGCTTTG  
AAGCTATGAAAAGAACAGATTATGCGGATATGGTGCGTAATCTCCTGATGGGGCTGGTTGAGGTCACTCCAAAAGGTGAAAT  
CGTGACTCATTTTCCATA

4158.4 (SEQ. ID. NO. 275)

ATGATAGGGAAGTTTCGCGCTGCTCTTGTAGCTGTACTAGCAAAATTTATCGTCCCTATTGAAATTACCCCAATAGTGCCAA  
TACTGAAATTGCACCACAGATGGGATTGGGCAGGTTCTCAGCAACCTCTTGCTCAAACCTGGTTGACAACCCAGTCAACGCC  
CTGCTTACTGCTAACTATATTAGAACTTATCTTGGGCAGTCAATTTTGAATCGCTATGAGAGAAGCCAGTAAAAATAGTCA  
AGAATTGCTAAAAACTATCGTGACTTCTTAAATTTGCAATGGATCATCAATCTGGCTCCATTGGAATCCTTGGTCT  
TTGTTTTTAAACCATTCTGACAAAGGAGTCGGAAGCCTTGCCAACTACGGTATTTTATTGGTCTATTAGTAACGACTATG  
CTTTTGTGGCCCTGTGGTCAACCTTTGATTGCTTCTCTTATGAGACGCAATCCTTACCCTCTAGTTTGGAACTGCCTCC  
GTGTCACCGGCTGTGACAGCCTTTTTCACTCGTAGTTCTGCGACTAACATTCCTGTCAACATGAAACTCTGCCATGACCTTGA  
CTCAACCCAGATACCTATCTGTTTCTATCCCACTCGTTCTACTACTCAATATGGCTGGAGTAGCGATTACCATTAACCTTTTG  
ACCCTTGCTGCAGTTAACACTCTTGAATTCCTGTTGACTTTGCCACAGCCTTTGTCTCAGTGTGGTAGCAGCTATCTCATCC  
TGTGATGCTTCAGGATTTGCCGGAGGTTCCCTCCTTCTATCCCAAGTTGCTTGTAGCCTTTTGGTATTTCTAACGATATTGCC  
ATACAAATCTTGGGTTGGTTTGTGATTGGTGCTATCCCAAGCTCATGTGAAACAGCCCTTAACCTTCTACAGATGTCTCT  
CTTACCCTGCTGGCAATACGCAGCAACCCGTAATAAATA

4158.5 (SEQ. ID. NO. 276)

ATGTCTATTAGCCAACGTACGACCAAGCTCATCTTAGCTACCTGTCTTGCCTGCCTGCTTGCTATTTTCTCAATCTTTCGTCA  
GCAGTTTCGGCTGGAATTATCGCTCTCTTGAGCCTATCTGATACGCGTAGAAGTACTTTAAACTGGCTCGCAATCGTCTTTT  
TCTATGCTTCTAGCTCTGGCTATCGGTGTTCTAGCTTTTCACTTGAGCGGATTTCTATCTGGAGTCTCGGCCCTCTATCTGGCC  
TTCTACGTTCTTTAGCCTACAAGATGGGCTGGGAAATTTGCAATACCAAGCACTGTTTGGTTAGCCATCTCTTGGTTCA  
AGAGTCAACCTCTCCAGACCTTCTAGTCAATGAATTCCTTCTCTTGGTATTGGTACAGGATTTGCCTTGCTTGTAAATCTCTA  
TATGCCCTTACAGAGAAGAGGAAATCCAGCACTACCACACGCTGGTGGAAAGAAAAGTTAAAGATATCCTCCAGCGCTTCAA  
ATACTATTTATCCAGAGGAGACGGACGCAACCCGAGCACAGCTGGTAGCAGAATTAGACACGCTTTTGAAGAAGCCCTCAG  
ACTGGTCTATTGGATCACTCTGACCACCTCTTTTACCAGCAGACAGTACCATATCCACTACTTTGAGATGAGACAGCGACAAA  
GTCGTATCCTGAGAAACATGGCCCAACAGATTAACACTTGTACCTTGCCGCCAGTGAAAGCCTGATCTTAGCGCAACTCTT  
TCAAAAATTTGCAGGTCAACTGAGCCAGACCAATCCTGCTTCTGATTGCTAGATGAAATTTGAACGTTATCTGGAAGTCTTCCG  
GAACCGCAGTCTGCCAAGACAAGAGAAGAAATTTGAAACCCGCGCCACCTTCTCAACTCCTACGTGAAGCCAAAACCTTC  
ATCCAAGTAAAGTTGATTTTTACCAAAAATATAGACAGTAA

4158.6 (SEQ. ID. NO. 277)

ATGGAATCATGTCTGCTTGGGATTGCTGTTTTTGGCGTCATATTGGTTTATGTCATTGGATATGTCAGCATCTCAGCTAAGATG  
AAATCATCTCAGGAAGCTGCAGAGTTGATGCTTTTAAATGCTGAACAAGAAGCAACTAATTTACGTGGACAAGCTGAGCGTG  
AAGCGGATTTACTTGTAAATGAAGCCAAACGTGAAAGCAAGTCTCTTAAAAAAGAAAGCACTATTGGAGGCCAAAGAAGAAG  
CCAGAAAATACCGTGAAGAAAGTGACGCTGAATTCAAATCAGAAGCTCAAGAACTCAAAACAAATCGAAAGTCGTTGACAG  
AGAGCTACTAGCCTTACCGTTAGCCGTAAGGACGACAAATTTGACGAGTAAAGAACAAACACTTTGAACAAAAAGAACAAAGTATTT  
CTGATAGAGCGAAAAACCTTGATGCGCGTGAAGAGCAATTAGAGGAAGTCGAAAGACAAAAAGAGCAGAACTAGAGCGT  
ATTGGTGCCTGTCTCAGGCAGAAAGCAGAGATATTATCTTGGCTCAGACAGAGGAAAACTTGACCAGGGAGATTGCCAGTC  
GCATTGCGGAAGCTGAGCAAGAGGTCAAGGAACGTTCTGACAAAATGGCCAAAGGACATCTTGGTTCAAGCTATGCAACGAT  
CGCTGGTGAATATGTAGCGGAGTCAACAACTCAACAGTTCTATCTGCCAGACGATACTATGAAGGGACGCATTATTGGTCTG  
GAAGGTCTGAACATTCGTACCTTTGAAAGTTTGACAGGGGTCTGATGTGATTATCGACGATACACCAGAAGTGGTGACCTTGT  
CAGGATTTGATCCGATTCTGCTGAGATTGCCCGTATGACTATGAAAATGTTGCTCAAAGATGGTCTATACATCCAGCTCGT  
ATCGAAGAGTTGGTTGAGAAAAACCGTCAAGAGATTGCAATAAGATTTCGTGAATACGGTGAGGCTGCTGCCTATGAAATTG  
GTGCGCCAAACCTTCATCCAGACTTGATGAAGATTATGGGACGTTTGCAGTTCGCTACTTCATATGGACAAAATGTTTTGCGC  
CATTCGATTGAGGTTGCTAAGTTGGCTGGTATCATGGCGAGCGAACTTGGTGAAAAATGCGGCTCTTGCCCGTCTGCTGGATT  
CCTTCAGGATATCGGGAAGCCATTGACCATGAGGTTGAAGGTAGCCACGTTGAAAATCGGTATGGAATTGGCCCGTAAGTAC  
AAGGAACCCCCAGTTGTGGTGAATACGATTGCTAGTCACCACGGAGATGTTGAAGCTGAGAGCGTGATAGCAGTTATCGTCG  
CTGCAGCAGATGCTTGAAGCGCAGCCGTCAGGTGCTCGTAGTGAGTCTCTTGAAGCTACATCAAGCGTCTCCATGATTG  
GAAGAAATTTGCTAACGGCTTTGAAGGAGTGCAAACTAGCTTTGCCCTTCAAGCAGGACGTGAAATTCGTATCATGGTCAAT  
CAGGAAAAATCAAGGACGACAAAGTCAAACTTTGGCTCACAAGATTCGTAAGAAAAATTGAAAACAACTCTCGATTATCCAG  
GAAATATCAAGGTAACCGTGATTGCGGAGCTTCTGTCAGTAGATTATGCTAAATAA

4158.7 (SEQ. ID. NO. 278)

ATGATGTTAAACCTCTATTGATACCTTGCTCGACAAGGTTCTTCAAAAATATTCACTCGTAATCTTGAAGCAAAACGTGC  
CCACGAATTGGAAGCAGGTGCCCGAGCAACTCAAGGTTTCAAGTCTGAAAAATCAACTCTTCGCGCTTTAGAAGAAATCGAA  
TCAGGAAACGTTACAATTCACCCAGATCCAGAAGGAAAAACGTGAAGCAGTGCCTGCGCGTATCGAAGAAAGAAAAACGCCG  
AAAGAAGAAGAAAGAAAAAGAAATCAAAAGAGCAAAATTGCTAAAGAAAAAGAGATGGTGAAAAAATTTAA

4161.1 (SEQ. ID. NO. 279)

ATGTCAGCATATCAATTACCGACCGTATGGCAGGATGAAGCTAGTAATCAAGGAGCTTTTACGGGGCTAAACAGACCAACAG  
CAGGTGCCCCGTTTGAACAAAACTTGCCAAAAAGGAGAAACAGCTTTTACGCTTTATTCAGTGGGAACACCAAAATGGTGTGAA  
GGTACTATCTTATTGGAAGAACTACTAGAAGCTGGTTTAAAGGAAGCGGCTTACGACTTGTATAAGATTGCTATCATGGATG  
GGGATCAATTCGGATCAGACTTTTGAAGCTCAATCCAAATTCAGAAATTCAGCCTTATTGGACCACTCAGGTACTGAAAA  
CGTAAGAGTCTTTGAGTCTGCTCATATTTCTTTACCTTGTGGAAGAAATTTGGAGCCTTTTACCAAGTAATCCTGTGGAAAA  
GGTAGAAGTTTTGAATTGGCTATTCTGGCAAGCAGGTGCAGCACCTTTCTAGGTGGGGGATTGGACATTTCTCAATTATG  
CTCCTGAAAAATTTGGAATATCTATTAACCGTTTACGATGGAAGTGAAACGCCAGTTGGATTATTGGATAAGGAATTGGCT  
CAGAAACCTTATATTGCAGGCAATGACTATACGATTGCAGATATTGCTATCTGGTCTTGGTATGGACAGTTAGTTCAAGGAA  
ATCTTTACCAAGGTTCTGCAAAATTTCTGGATGCCCAAGTTATCAAAATCTAGTAAAAATGGGCAGAAAAAATTGCCAATCG  
TCCAGCTGTTAAGCGTGGCTTGGAAAGTAACCTTATACAGAAATTAATAG

4161.2 (SEQ. ID. NO. 280)

TTGGCAAGCTTGATCACTTCTATCATCATGTTCTATGTGCGTTTCGATGTTCTAAGAGATACCAATTCAAAAAGATTCTCAGTCGG  
GAAGAAACGGTCAATTGATCTCTTGGTGCAACTCTAGGAATCATTTCTGCAGCGATTATGTTTGTGGTCTATCTCTACAATAC  
TCGCCTCAGTAAGAAATCCAACCTCAATGCGCTGAAGGCAGCTGCTAAGGACAATCTTTCTGACGCTGTTACCTCACTTGA  
ACCGCCATTTGCCATCCTAGTAGTATTCAATTATCCGATTGGGATAAACTGGTTGCTATCATCACTTCTTTATCTTG  
AAGACTGCCTATGATATCTTCATCGAGTCTTCTTTAGTCTTTAGATGGCTTTGACGACCGCTGCTCGAGGACTACCAAAA  
GGCTATCATGGAATTTCCCAAAATCAGCAAGGTCAAATCGCAAAGAGGTGCGACCTACGGTAGCAACATCTACCTGGATATT  
ACACTAGAGATGAATCTGACTTGTCTGTTTGAAGCCATGAAATCGCGGATCAGTCTGAGTCTATGCTGGAGGAGCGTT  
TTGGCGTCTTTGATACCGATGTCATATCGAACCCAGCACCTATCCCTGAGGATGAAATTTTAGACAATGTCTATAAAAAATTG  
CTTATGCGTGAACAAATGATTGACCAAGGAAACCAACTAGAAGAACTCTTGACTGATGATTTTGTCTATATTCGCCAAGATG  
GAGAGCAGATGGATAAAGAGGCTTATAAGACCAAAAAAGAGTTAAATTTCTGCTATCAAGGACATTCAAATTAATCTCCATCAG  
TCAAAAAACCAAACTCATCTGCTATGAGTTAGATTATCCATACCAGTATCTGGCGTCGCCACGAAACCTGGCAAAAT  
ATCTTTATCAAGAAACCAAAAAAGAATAG

4162.1 (SEQ. ID. NO. 281)

ATGACAATTAACTAGTAGCAACCGGATATGGACGGAACCTTCTAGATGGGAATGGACGCTTTGATATGGATCGTCTCAAGT  
CTCTCTTGGTTTCTACAAGGAAAAAGGGATTTACTTTGCGGTAGCTTCGGGTGCGGGATTCTGTCTCTAGAAAAATTTATTT  
GCTGGTGTTCGTGATGACATTATTTTCATCGCGGAAAAATGGCAGTTTGGTAGAGTATCAAGGTGAGGACTTGTATGAAGCGA  
CTATGTCTCGTACTTTTATCTGGCAACTTTTGAAGAGCTGAAACCTTCACTTATGTAGATATCAATAAAGTCTCTTGACG  
GGTAAGAAGGGTTTATATGTTCTAGATACGGTTGATGAGACCTATTTGAAAGTGAGTCAGCACTATAATGAAAAATATCCAAA  
AAGTAGCGAGTTTGAAGATATCAGAGATGACATTTTCAAATTTACAACCAACTTCACAGAAGAAACGCTGGAAGATGGGG  
AGGCTTGGGTAAACGAAAACGTTCTGTTTGAAGCCATGACAACCTGGCTTTGAATCCATTGATATTGTTCTGGACTATGTC  
GATAAGGGAGTGGCCATTGTTGAATTAGTTAAAAAACTTGGTATCACAATGGATCAGGTATGGCTTTTGGAGACAATCTTA  
ATGACTTACATATGATGCAGGTTGTGGGACATCTGTAGCTCTGAAAATGCACGACCTGAAATTTTAGAATTAGCAAAGAC  
TGTGATTGGTCACCAATAAGGAACGGTTCGGTTATAGCTTATATGGAGGGCTTATAA

4162.2 (SEQ. ID. NO. 282)

ATGGCAGATATAAAATGATTGCAATTGGACTTGGACGGGACCTTGTGACTACTGATAAAAGGCTGACGGATCGTACCAAGG  
AAACCTTGCAAGCTGCGCGTATCGTGGTATCAAGGTCTGATTGACAACCTGGTCCCTTAAAAGCCATGGATTCTTTCTC  
CATGATTAGGGACTGACGGTCAGGAAGATGAGTACCTATTCTTTAATGGTGGATTAGTTTCAGAAAAATACAGGAGAAAA  
TCCTTGATAAAACAGTCTTTTCATATGATGATGTGGCAGCTTTGTATGAAGAAACAGAGAAATTATCACTGCCTCTTGATGCC  
ATCTCAGAAGGAACAGTTTCAAAATCCAATCGGACCAAGAAAGCTTTTATGCCAAATTCATCCAGCTTTGACCTTTGTTC  
AGTGGACTTTGAAGACTTATCTAGTCAAAATGACCTACCAACAAATGCGTGACTGCCTTTGCTCAAGAACCTTGGATGCTG  
ATTGAGAAAGATTCTCCAGAATTGTTTGACCAATATGAAATCTTTAAATCACGTGAAATGTTGCTAGAATGGTCACCAAGA  
ATGTTTCATAAAGCAACAGGTTTGGCAAACTAATCAGCCATCTTGGAAATCGACCAAAAGTCAAGTGATGGCTTGTGGTACGA  
GGCAATGACCTCTCTATGATTGAATGGGACGGTCTTGGTGTGCTATGCAAAACGCTGTTCTGAAGTAAAGGCAGCCGCA  
AATGTAGTGACGCCGATGACCAACCGATGAGGAAGCTGTGCGCTGGGCTATCGAAGAATATGTGCTAAAGGAGAACTAA

4164.2 (SEQ. ID. NO. 283)

ATGGAAAGTTTACTTATTCTATTATTAATTGCCAATCTAGCTGGTCTCTTTCTGATTGGCAAAGGCAGGATAGGCAGGAGAA  
ACACTTAAGTAAGAGCTTGGAGGATCAGGCAGATCAATTTGTGACAGCAGTTGGATTACCGCTTTGACCAAGCCAGACAAGCC  
AGCCAGTTAGACCAAAAAAGATTGGAAGTGTTGTACGCGACCGTTTGAAGAAAGTGGCGATTGAATTGCACCAAGGTCTGA  
CCCAAGTCCGTCAGAAATGACAGATAATCTCTCCAACTAGAGACAAGACAGACCAACGCTCTCAAGCCTTGACAGGAATC  
AAATGAGCAACGTTTGGAACTTGCAGCAAGCTGCGGAGGAGGAAAGAACTAGAAAAAGACCTTGCAGACACGCTTACAGGCTT  
CTTTGAGACAGTTTCTAAACAACCTGGAGTCTGTCAATCGTGGCCTTGGAGAAATGCAGACAGTTGCCCGTGATGTGCGAGCT  
CTTAACAAGGTTCTCTCTGGAACCAAGACGCGAGGGAATCTGGGAGAAATGCAACTGGGGCAAAATTTGAAGACATCATGA  
CACCTGCCCAGTACGAACGAGAATACGCAACGGTTGAAACCTTGAAGTGAACGAGTGGAGTATGCCATCAAGTTACCCGGAC  
AAGGCGACCAAGAAATACGTCTATCTGCCAATTGACTCTAAGTTTCCACTGGCAGATTATTACCGCTTGGAAAGACCTATGA  
GACAGGTGACAAGGATGAGATTGAACGCTGTGCTAAGTCACTCCTAGCAAGCGTCAAGCGCTTTGCTAGGGATATTAGGAAC  
AAGTACATAGCACCTCGGACGACCAATTTTGGAGTTTGTGTTTCCGACAGAGGCTCTACTCAGAAATCGTCCGCAA  
TCCGTTCTTTGATGATTGAGACGGGAAGAACAGATTATTGTTGCAGGACCAAGTACCCATCAGCCCTTCTTAACCTCCC  
TATCAGTTGGTTTCAAGACCTTAATATCCAAAAGAGTGCCGACCATATCAGCAAGACTCTTGCCAGTGTCAAGACCGAGTTT  
GGCAAGTTTGGTGGTATCTGGTCAAGGCACAAAAACATCTCCAACATGCCTCTGGCAATATTGATGAATTATTAACCGTC  
GTACCATAGCTATCGAGCGGACGCTCCGTCACATTGAGTTGTGAGAAGGTGAGCCTGCGCTGATCTACTCCATTTTCAAGAA  
AATGAGGAAGAATGAAGATTAG

4164.3 (SEQ. ID. NO. 284)

ATGAAGATTAGTCACATGAAAAAGATGAGTTATTTGAAGGCTTTTACCTAATCAAAATCAGCTGACCTGAGGCAAACTCGAG  
CTGGGAAAAACTACCTAGCCTTTACCTTCCAAGATGATAGTGGCGAGATTGATGGGAAGCTCTGGGATGCCCAACCTCATAA  
CATTGAGGCCTTTACCGCAGGTAAGGTTGTCCACATGAAAGGACGCCGAGAAGTTTATAACAATACCCCTCAAGTCAATCAA  
ATTACTCTCCGCTGCCTCAAGCTGGTGAACCAATGACCCAGTGATTTCAGGTCAAGTCAAGTCAAGTCAAGTCAAGGAAA  
TTGCTGACTACATGTCCGAAATGATTTTCAAAATGAAAACTGTCTGGCAACGGATTGTCGAAATCTCTACACCAAGTAT  
GATAAGGAATTCTACTCTATCCAGCTGCCAAGACCAACCACCATGCCTTTGAAACGGGCTTGGCCTATCATACGGCGACCA  
TGGTGCCTTTGGCAGACGCTATTAGCGAAGTTATCTCAGCTCAATAAGAGCCTGCTCTATGCGGGGATTATGTTGCATGAC

TTAGCTAAGGTCATCGAGTTGACGGGGCCAGACCAGACAGAGTACACAGTGCAGAGTAATCTTCTTGGACATATCGCTCTCA  
TTGATAGCGAAATACCAAGACAGTTATGGAACCTCGGCATCGATGATACCAAGGAAGAAGTCGTTTTGCTTCGTCATGTCAT  
CCTCAGTCACCACGGCTTGCTTGAGTATGGAAGCCAGTCCGTCCACGCATTATGGAAGCAGAGATTATCCATATGATTGAC  
AATCTGGATGCAAGCATGATGATGATGTCAACAGCTCTTGCTTTGGTGGATAAAGGAGAGATGACCAATAAAATCTTCGCTA  
TGGATAATCGTTCCTTCTATAAACCAGATTTAGATTAA

4166.2 (SEQ. ID. NO. 285)

ATGAGTGAAAAAGCTAAAAAAGGGTTTAAAGATGCCTTCATCTTACACCGTATTATTGATAATCATTGCTATTATGGCAGTGCT  
AACTTGGTTTTATCCCTGCGGGGGCCTTTATAGAAGGTATTTACGAGACTACGCCTCAAAATCCACAAGGGATTGGGATGTCC  
TCATGGCACCAGATTGCGGCTATGCTAGGTACTCATCCAGAGGAAGGTTGCTCATTAAAGAAACGAGCGCAGCGATTGATGT  
AGCCTTCTTCATCCTTATGGTTGGTGGTTTCTTGGCATTGTCAACAAAACTGGTGTCTTGGACGTAGGGATTGCCTCTATCGT  
GAAGAAGTATAAGGGCCGCGAAAAAATGTTAATTTTGGTACTGATGCCTTTGTTTGCCTCGGTGGTACAACCTATGGTATGG  
GTGAAGAAAAAATGGCCTTCTATCCACTCCTTGTGCCAGTTATGATGGCCGTGGTTTTGATAGCCTGACTGGTGTGCAATT  
ATTTTGTCTCGGTTCTCAAATCGGCTGTTTGGCATCTACTCTGAATCCATTGCGACAGGTATTGCTTCAAGCAGCTGCGGGAGTT  
GGTACAGGGGACGGTATCGTACTTCTGCTGATCTTCTGGTACCTTGACTGCTCTTAGTACTTGGTTTGTACCGTTATGCG  
GATAAGATTCAAAAGATCCGACTAAGTCACTGGTTTATAGTACTCGCAAGGAAGATTGAAACACTTTAAGCTAGAAAGAAAT  
CTTCATCTGTAGAATCTACACTTAGCAGCAAAACAAAAATCAGTTCTCTTCTTATTGTGTGACATTCTTGTATGGTATTGA  
GCTTCATTCCATGGACAGACCTTGGCGTTACCATTTTGTGATGACTTAACTACTGGTTGACTGGTCTTCCAGTTATTGGTAATA  
TTGTGCGTTCATCTACTTCTGCACTAGGTACTTGGTACTTCCAGAAAGGCGCAATGCTCTTGCCTTTATGGGTATCCTGATTG  
GTGTTATTTATGGTCTTAAAGAAGATAAGATTATCTCTTCTTATGAATGGTGTCTGCTGACTTGTCTAGTGTGCTTGTATCG  
TAGCGATTGCTCGTGGTATTCAAGTTATCATGAACGACGGTATGATTACCGATACAATCCTCAACTGGGGTAAAGAAAGGCTT  
GAGCGGTCTATCTTCAACAAGTCTTATCGTTGTAACCTATATCTTCTATCTACCTATGTCACTTCTTGATCCCATCTTCTATCTGGT  
CTTGCCAGCGCAACTATGGGTATCATGGC  
TCCACTTGGAGAATTTGTAATGTCCGCTCCTAGCTTGATTATCACTGCTTACCAATCTGCTTCAGGTGTCTTGAACCTTGATTGC  
ACCAACATCTGGTATTGTGATGGGAGCTCTTGCACTTGGACGTATCAACATTGGTACTTGGTGGAAATTCATGGGCAAACTCG  
TAGTCGCTATTATTGTAGTGACCATCGCCCTTCTCTCTTGGAACTTCTTCCATTCTCTATAA

4166.3 (SEQ. ID. NO. 286)

ATGAAAAATAGATATAACAAATCAAGTTAAAGATGAATTTCTTATATCATTTAAAAACCTTGATTTCCTATCCTTCAGTACTCAA  
TGAAGGAGAAAAATGGAACACCTTTTGGACAAGCAATCCAAGATGTCTAGAAAAAACTTTAGAGATTTGTGAGACATAGG  
TTTCACTACCTATCTTGACCCTAAAGGTTATTACGGATATGCAGAAATCGGTACGGGAGCAGAGCTTCTGGCCATTCTCTGTC  
ATTTGGATGTTGTTCCATCAGGTGATGAAGCAGATTGGCAGACACCGCCATTTGAAGCAACTATCAAAGACCGGTGGGTATT  
CGGACGTGGTGTCAAAGATGATAAAGGCCCTTCGCTCGCAGCTCTTATGCAGTAAAAAGCTTGGTGGACCAAGGTATTGAG  
TTCAAAAAAGCGCGTACGCTTTATCTTTGGTACCGATGAGGAACCCCTTGGCGCTGCAATGGCAGCTACAATACCATCGAAG  
AACAGGCCAGTATGGGCTTGTACCTGACTCATTTTTCTCTGACCTATGCTGAAAAAGGGCTTCTACAGGTCAAACCTTCAT  
GGCCCTGGATCGGATCAACTAGAGCTTGAAGTAGGAGGGCGCTTTAACGTTGTACCAGACAAGGCCAACTACCAAGGTCTCC  
TCTATGAACAGGTTTGTAAACGGTCTCAAAGAAGCTGGTTATGATTACCAAAACCACTGAACAAACCGTAACGGTTCTCGGAGT  
GCCAAAGCATGCTAAGGATGCTAGTCAAGGTATCAATGCTGTATCCGACTAGCTACCATTTCTTGTCTCTCTCCAAGAACACC  
CTGCTCTCAGTTTTCTTGCAACACAAGCAGGTCAAGACGGCACAGGAAGACAATCTTTGGTGTATATAGCAGATGAACCTTC  
TGGTCACTATCCTTTAATGTGCGAGGTCTCATGATCAATCATGAACCTTCTGAAATCCGATTGACATTCCGACTCCTGTCTT  
AGCTGACAAGGAAGAAGTATAGTAGAGTTGCTTACAAGATGTGCACAACTACCAACTCCGCTACGAAGAGTTTGACTATCTA  
GCGCCTCTATACGTGCGAGAAGACAGTAAACTCGTTAGCACACTGATGCAAACTACCAAGAAAAGACTGGCGATAACAGTC  
CTGCTATTTCATCCGGTGGTGCCACTTTTGTCTGCAACCATGCCAAATTTGTGTAGCTTTCGGCGCCTTATTTCCAGGAGCGAAG  
CAGACAGAACATCAGGCAAAATGAATGTCCGCTTCTAGAAGATTGTACCGTGCTATGGATATTATGCCGAAGCCGTCTATC  
GACTTGCAACTTAA

4169.1 (SEQ. ID. NO. 287)

ATGTCTAATTCATTGTGCAAGTTGTTAGTCTCTCAATTATTTGCAAAATTTAGCAGATATTTTCTTTAGAGTAACAATCATTTGCT  
AACATATACATTATTTCAAAATCAGTAATTGCCACATCACTAGTTCTCTATCTTAATAGGAATATCCTCTTTTGTGCGAGTCTT  
TTAGTTCCGTTGGTTACTAAAAGGTTAGCGCTAAATAGGGTTTATCTTTATCTCAATTTGGAAAGACTATATTATTGGCGAT  
ACTGGTAGGAATGTTTACCCTAATGCAATCCGTAGCGCGTTTGGTGACCTATCTATTTGTTGTTGCAATTTTCCATTCAGATG  
GTTTTGACAGACCCGTTTCTATGCTATTGTGCCACGCTATGCGACCGATTGGGTAAAGGCTAATTCAGCCTTATCAATGACT  
GGTGAAGCTGTTCATTGATAGGTTGGGGATTAGGTGGACTCTTGTGTTGCAACAATTTGGTCTGTTACCTACCACGTGTATCAA  
TTTAGTCTTGTATATCATTTCTAGCTTTCTGATGTTATTTCTTCTAACGCTGAAGTGGAGGTGTTAGAGTCAGAAAATAATCT  
TGAAATTTTGTCAAAGGTTGGAAGTTAGTTGCTAGAAATCCTAGATTAAAGACTTTTGTATCAGCAAAATTTATTGGAAATTT  
TTTCAAAATACGATTTGGGTTTCTTCCATTATCTTGTTTTGTAAACGGAGTTATTAATAAAAACGGAAAGTTACTGGGGATATT  
CTAATACAGCATACTCTATTGGTATTATAATTAGTGGCTTAATTTGCTTTTAGGCTATCTGAAAAAGTTTCTTGTGCTAAATGGG  
AACCCTAATTTTACCCCAAAATCTAAAAACCATCCAGAATCCTTGCCTTAGCTTAGATCCTGGATGGTTCTTTTTTTCACCCA  
ATGGGTGTTTTTTACTAGACAAAAAAGAGTTTCCCTTTATGGTATAAGTGTAGAAAAAACACAAAAAGAAAGGAAACTCA  
CATGAACAGTTTACCAATCATCACTTCCAAAAACAAGTCTTTTTACCAACTATCTTTCGATGGAGGTCAATTAACCCAGTATG  
GTGGTCTTATCTTTTTTTCAGGAACTTTTTCCAGTTGAAACTAAAAGAGCGGATTTCTAAGTATTTAGTAACGAATGACCAA  
CGCCGCTACTGCTGTTATTCGGATTACAGATATCCTTGTCCAGTTCCTCTTTCAACTGTTAAACAGGTTATGGAACGGACTATGCT  
TGTAAGAATTGTGACGTGATGCCTACTT  
TCCAAAAATTTGTTGGAAGGAGGGCAGCTTGCTTCACAGCCAACTTATCCCGTTTTCTTTCCAGAACTGACGAGGAAACAGTCC  
ATAGTTTGGCATGCCTCAACCTTGAATTGGTGAATTTTACAGTTTACCAGCTAAACCACTATTGTAGATATCGATT  
CTACCAATTTCAACAATTTATGGCAAGCAAGAAGGTTTGTCTTATAACGCCCACTATCGTGCTCATGGCTATCATCTCTTTAT  
GCTTTGAGGGGAAGACAGGTTATTGTTTCAATGCCAGCTTCGTCTGGTAATCGTTATTGTTCTGAAGAGGCGACAGCTT  
TATCACACCTGTTTGAAGACGGTTTAAATCAACTTCTCTTGAATGGATAGTGGCTTTGCGACCCCAAAATATACGATTAAAT  
TGAAAAAACAGGCAATACTACCTCATAAAAACCAAGAAATACTGTCTGAGCCGCTTGGAGACCTTCCCTCCCTTGC  
CCACAGGATGAGGACTTAACCATCTTGGCCCACTCCGCTACTCAGAACTCTCTATCAAGCAGGATCTTGGTGCACAAAGC  
GTCGTGTCTGCCAGTTCTCTGAACGAAAAAGAAAGAACTTGTCTACGATGTTATTTCTCTCGTTACAAATATGACGAGTGGGA  
ACAAGCCAAGACAGTTTACGCTTATTCGTGGACGTGGTCAAGCCGAGAATTCATCAAGGAGATGAAGGAGATTTTTTG  
GCGATAAAACCGGATGTTTCAACCTTAAACAAACGAATACTGTATGATGAGCTGTATCGCTACAACTCTCTATCTTTTT  
CTCAACATCTAGCTGGAGGTGACTTCCAACTTAAACAATCAAACGCTTCCGCCATCTTTTTCTTACGTGGTGGGAAATG



TGTTGGAACAGGACGCAAGCAGCTCCTCAAATGTCTAGTCTCTATGCCTATTCCGAATTGTTTTCAGCACTTTATTCTAGGAT  
TAGAAAAAGTCAACCTGAATCTTCTGTTCCTTATGAACCACCTAGAAGAAAAGCGTCGTTAATGATGCATTAA

4169.3 (SEQ. ID. NO. 288)

ATGATGGAGTTTTTCAACAGCTTCCTCATTTAGAGCCATATGGCAATCCTCAGTATTTTGTGTTATGTGATTGCTGCAACCTTG  
CCCATCTTTATAGGTCTCTTTTCAAGAAACGCTTTGCCTGGTATGAAGTGTGGTAAGTCTCTTCTTTATTGTCAACCATGTTG  
GTGGGTGGAAAGACCAATCAACTAGCTGCCTTGGGTATTTACCTTTGTCTGGGAAATATTGCTCCTGCTTTTCTACAGCATTAA  
TCGAAAAAGCAAGGATGGCAAGTGGGTCTTCTACTAGTTAGTTTCTGTCCCTACTTCCGATTATCTTTGTCAAGGTGCAAC  
CAGCTATCAATGGAACGCAGTCTTTGGCTTGGGTCTTTGGGAATTTCTTACCTGACCTTTTCGTTCCGTTGGGAATTTGTCATCGAGC  
TGAGAGATGGAGTGATTAAGGATTTTACCCTCTGGGAATTCCTCCGTTTCCTTCTTTCATGCCAATTTCTCGAGTGGTCCAA  
TCGATCGCTTTAAGCGATTTAATGAAAATATCAGGCTATTCTGAGCGAGATGAGTTGATGGATATGCTGGATGAATCTGTC  
CGCTATATCATGTGGGGCTTTTGTATAAGTTTATCCTAGCTCATGTTTAGGAGAGACCTTACTACCTCCTCTGAAGAATTTA  
GCCTTGCACTCAGGTGGCTTCTTTAATCTCTATGCCTTGGCAGTTATGTATACTTTTGGTCTGGAACCTTCTTTTGACTTTGCA  
GGTTATTCTATGTTTGGCTTTGGCCATCTCAAACCTGATGGGAATCCGTAGCCCTATCAACTTTAACAAGCCCTTTTATCAAGG  
GATTTAAAGGAGTTTTGGAATCGCTGGCATATGAGTCTGCTTCTGGTTCCGTGACTTTGTCTTTATGCGAATGGTGAATGGT  
GTTAACCGAAGAAAAGTCTTTAAAAATCGTAATGTAACCTCAAGCATGGCCTACATTGTAATATGCTGATTATGGGATTTT  
GGCATGGTGTGACCTGGTACTATATCGCCTATGGACTCTTTCATGGACTAGGCTTGGTCATCAATGATGCCTGGGTTTCGAAG  
AAAAAACCGCTCAATAAGGAACGGAAAAAGCAGGGAAGGCTGCCCTACCTGAGAATCGCTGGATTTCAGTTGCTTGGCATG  
GTTGTCACCTTCCATGTTGTCATGTTGTCATTCTTAATCTTTTCTGGATTCTTGAATAATCTATGGTTAAAAAATAA

4169.4 (SEQ. ID. NO. 289)

ATGCTTAAACGCTTATGGATGATCTTCGGACCGGTCTTGATCGCTGGTTTGTGGTTTTCTGCTCATTTTCTTTTATCCTACTG  
AGATGCATCAATCTAGGAGCTGAAAAGCGTTACAGCAGTGGCTACTACTATCGATAGTTTAAAGGAGCGAAGTCAAAAAAGT  
CAGAGCACTATCTGATCCAAATGTGCGTTTTGTTCCTTCTTTGGCTCTAGTGAATGGCTTCGTTTTGACGGTGCTCATCCTGC  
GGTATTAGCTGAGAAATACAACTCGTTCCTACCGTCTTATCTTTAGGACAGGGGGAGCTGCATCGCTTAACCAATATTTTG  
GAATGCAACAGATGTTACCACAGCTGGGAATAAACAAGTTGTGATGTTATCTCACCTCAGTGGTTTCAGTAAAAATGGCTA  
TGATCCAGCAGCTTTACCAGCAGTATTTAATGGAGCAGGTTGACTAGTTTCTGAAACATCAATCTGGGGATCAGGCTAGTC  
AATATGCAGCGACTCGCTTACTGCAACAGTTCCTCAACAGTAGCTATGAAGGACCTGGTTCAGAAGTTGGCAAGTAAAGAAGA  
ATTGTGACAGCAGACAATGAATGATTGAATTTATGGCTCGTTTAAATGAACGCCAAGCTTCTTTTGGTCACTTTTCGG  
TTAGAGCGCATGTTAACTACGATAAGCATGTAGCTAAGTATTTAAACCTTGGCCAGACCAAGTTTCTTATCAGGCAATAGAA  
GATGTTGTCAAAGCAGATGCTGAAAAAATACTTCCAATAATGAGATGGGAATGAAAAATTTTCTATAATGAGCAGATCA  
AGAAGGATTTGAAGAAATTAAGGATTCTCAGAAAAGCTTTACCTATCTCAAGTCGCCAGAGTATAATGACTTGCAGTTGGT  
TTTAAACAGTTTTCTAAATCTAAGGTAACCCGATTTTATCATTCCACCTGTTAATAAAAAATGGATGAATGACTGGTCTG  
TACGAGAGGATGATGTACCAACAAACCGTGCAGAAAGTTCCGTAAGGTTAGAAAAGTCAAGGTTTACCAATATAGCAGATTT  
TTCTAAGGACGGCGGGGAGCCTTTCTTTAAGGACACCATTCACCTTGGTTGGTTGGGTTGGTTGGCTTTTGACAAGGCAG  
TTGATCCTTTCTATCCAATCCACACCAAGCTCCGACTTACCATCTGAATGAGCGCTTTTTCAGCAAAGATTGGGCGACTTAT  
GATGGAGATGTCAAAGAATTTCAATAG

4169.6 (SEQ. ID. NO. 290)

ATGGAGAAAACTCAAGGCTTTGAAACAAACAACAGACCAAGAAGGCCAGCAATTGAACCTGAAAAGGCAGAGGATAC  
CAAGACAGTCCAAAAATGGTTACTTCGAGGATGCAGCTGTCAAGGACCGCACCTTGAGTGACTATGCAGGTAACCTGGCAATCA  
GTTTATCCTTTCTTGAAGACGGCAGCTTTGACCAAGTCTTTGACTACAAGGCTAAGTTGACTGGTAAGATGACCCAGGCTGA  
GTACAAGGCTTACTATACAAAAGGCTATCATACAGATGTGACTAAGATTAACATTACTGATAATACTATGGAATTTGTTCAA  
GGTGGACAAAGCAAGAAATACACTTACAAGTATGTCGGTAAGAAAATTTTGACTTACAAGAAAGGCAATCGTGGCGTGGCT  
TTCTCTTTTGAAGCCACAGATGCTGACGCTGGACAATTCAAGTATGTTTCAGTTTATGAGCACAATGTTGCCCCAGTTAAGGC  
AGAACATTTCCATATCTTCTTTGGAGGCACAAGCCAAGAAGCCCTCTTTGAAGAAATGGACAACCTGGCCAACCTACTACCCA  
GATAACCTATCTGGCCAAGAAATCGCCCAAGAAATGTTGGCGCATTGA

4170.3 (SEQ. ID. NO. 291)

ATGAAAGATGGTCTATTGCTAGCCCATCATATTCGTTTGTGAATGGGCGGATTTTCAAAGTTACTGAGTCAAGATCCTGA  
GGCTCTTTATAGGGGTGAACAGGGCAAGATTTTAGCGGTTTTATGGAATAGTGAACCTGGCTGCGCAACTGCGACAGATATC  
GCGCTTGGGACTGGACTTTGCGAATAATACGCTGACGACTATGATAAAAAAGCTAGAGGAACAAAAGCTTGAATTGTTAGTC  
CGTGTGGAAGGACAAAGCGTAAGAAGTATTTAGTTTTAACGGAGTTAGGCAAGTCCAGAAAGAAAGTGGGGCATCGTGTCA  
GTCAGAAATTTGATACTATCTTTTACAAGGATTTTCAGAGGAAGAAATTCACCAATTTGAAGGTTTTCAAGAAAGAAATTT  
GGCAATCTGAAAGGAAAGGAAATGAGGTTTAG

4170.4 (SEQ. ID. NO. 292)

ATGACTAATTTAATTGCAACTTTTCAGGATCGTTTTAGTGATTGGTTGACAGCTCTATCTCAACATTTGCAGTTGTGCTTTTG  
ACCTTGTTACTAGCTATTTTGTCTGCGATTCCCTTGGCTGTTTTCTTCGCTATCATGAGAAGCTGGCCGACTGGGTCTTGCA  
ATTGCAGGTATTTTCCAGACCATCCCGTCTCTGGCCTTGTGGGGCTCTTATCCCTTTGATGGGAATTTGGGACCTTGCCGGCT  
TTGACAGCTCTAGTGATTTATGCGATTTTCCCTATTTTGCAAAATACTATCACTGGGCTGAAGGGAATTTGATCCGAACCTGCA  
AGAGGCTGGGATTTGCTTTGGGATGACCAAGATGGGAACGCTCTCAAGAAATTTGAAATTTCACTGCCATGCCTGTTATCATG  
TCTGGGATTCGGACGGCAGCTGTTTTGATTATCGGTACGGCAACCTTGGCGGCTTGTATTGGTGCAGGGGGACTAGGTTCCCT  
TATTCTTTTGGGAATTTGACCGTAATAATGCCAGTTTGATTGTTGATGGGGCACTTTCTTCTGCACTGCTAGCCATTGCCTTAA  
CTTCTACTAAAAAGTGATGGAAGAAAGCAAAATACAGGATGTTTCTCAGGTTTGGCTTGGTGGCTTTTACTGGCTCTGT  
CTTATAGTCCAGCTCTTTTGGTTCAAAAAAGGAAGGAAACCTTGGTTATTGCTGGGAAAAATAGGTCCAGAACAGAAATTTT  
GGCAATATGTATAAGTTGCTGATTGAAGAAATACCAAGCATGACTGCGACTGTTAAACCGAATTTTGGGAAGACAAGCTTC  
CTTTATGAAGCTCTGAAAAAGGGGATATTGACATCTATCTGAAATTTACTGGTACGGTGACTGAAAGTTTGGCTTCAACCATC  
ACCCAAGGTGAGTCATGAACAGCAAGCAGGTTTATCAGGTGGCGCGGTGATGGCATTGCTAAGCAGGATCATCTAGCCTATCTC  
AAACCCATGTCTTATCAAAACACCTATGCTGTAGCTGTTCCGAAAAAGATTGCTCAAGAATATGGCTTGAAGACCATTTTCAG  
ACTTGAAAAAGGTTGAAGGGCAGTTGAAGGCAGGTTTACACTCGAGTTTAAACGACCGTGAAGATGGAATAAGGGCTTGC  
AATCAATGTATGGTCTCAATCTCAATGTAGCGACCATTTGAGCCAGCCCTTCGCTATCAGGCTATTCACTAGGGGATTTCAA  
ATCAGGATGCCTATTCGACTGATGCGGAATTTGAGCGGTTATGATTTACAGGCTTGGAAAGATGACAAGCAACTTCCAC  
CTTATCAAGGGGCTCCACTCATGAAAGAAGCTCTTCTCAAGAAACACCCAGAGTTGGAAGAGTTCTTAATACATTGGCTGG



TAAGATTACAGAAAGCCAGATGAGCCAGCTCAACTACCAAGTCGGTGTGAAGGCAAGTCAGCAAAGCAAGTAGCCAAGGA  
GTTTCTCCAAGAACAAGGTTTGTGAAGAAATGA

4170.5 (SEQ. ID. NO. 293)

ATGATGCATACTTATTTGCAAAAAGAAAATTGAAAAATATCAAAAACAACCCTAGGTGAAATGTCAGGTGGTTACCGTCGTATGG  
TTGCGGCTATGGCTGATTTAGGATTTTCAGGAACTATGAAGGCTATCTGGGATGACCTCTTTGCCCATCGTAGTTTTGCCAG  
TGGATTTATTTGCTGGTTTTAGGAAGTTTTCCCTCTCTGGCTGGAGTTGGTTTACGAACATCGTATTGTTGACTGGATTGGGATG  
ATTTGTAGCTTGACAGGGATTATCTGTGTAATCTTTGTATCGGAAGGTCGAGCAAGTAATTATCTTTTGGCTTGATTAACCTCT  
GTTATTTACCTTATTTTGGCCCTACAGAAAGGCTTTTATGGTGAGGTGCTGACGACACTTTACTTCACAGTCATCGACCCAAT  
TGGACTTCTAGTTTGGATTTATCAGGCACAGTTTAAAGAAGGAAAAGCAGGAGTTTGTGCGCGGTAAACTGGACGGCAAGGGC  
TGGACAAAAGTATCTTTCCATTAGTGTGCTTTGGTGGTTGGCTTTGGCTTCATTTATCAGTCTATTGGTGCCAATCGTCCTAT  
CGTGATTCAATCACAGATGCAACCAATGGGGTAGGGCAATCTCATGACAGCTGTTTACCGTGAACAGTGGATATTCTGGG  
CGGCTACCAATGTCTTTTCAATCTATCTCTGGTGGGGAGAAAGCCTGCAAATTCAGGGAAATATCTAATTTATCTCATTAAAC  
AGTCTAGTTGGTGGTATCAATGGAGCAAGGCAGCTAAGCAGAATACTGATTACTTAACTAG

4170.6 (SEQ. ID. NO. 294)

ATGAGAAATATGAAGGCAAAATATGCTGTTTGGGTGGCTTTTTTCTTAAATTTGACTTATGCCATTGTTGAGTTTATTGCAGG  
TGGAGTATTTGGTCTAGCGCTGTTCTTGCTGACTCTGTGCATGACTTGGGAGATGCGATTGCAATTGGAATATCAGCTTTTCT  
AGAAACAATCTCCAATCGTGAAGAAGACAATCAGTACACCTTGGGCTATAAGCGGTTTACCTGCTAGGACCTTTGGTAACA  
GCTGTGATTCTCGTAACGGGCTCTGTTCTAGTCAATTTTGGAAAATGTCACGAAGATTTTGCATCCGCAACCAGTCAATGATGA  
GGGGATTCTCTGGTTAGGAATTATTGCGATTACTATCAATCTGTTAGCGAGTCTGGTGGTTGGTAAGGGAAAAGACAAAAGAA  
GAGTCTATTCTGAGTCTGCATTTTCTGGAAGATACGCTAGGGTGGGTAGCTGTTATCCTGATGGCGATTGTTCTTCGATTAC  
GGAGGTGATATCCTAGATCCTCTTTTGTCCCTTGTCAATTTCTTTTATTTCTTTTCAAAAAGCCCTTCCACGTTTGGTCTACA  
CTCAAGATTTTCTTGGATGCTGTGCCAGAAGGCTTTGATATCAAGCAAGTAAAGAGTGGCCTGGAGCGATTGGACAATGTGG  
CCAGCCTTAATCAGCTTAATCTCTGGACTATGGATGCTTTGGAAAAAATGCCATTGTCCATGTTTGTCTAAAAGAAATGGAA  
CATATGGAACCTGTAAAGAGTCTATTGCAATTTCTTAAAAGATTTGGTGGTTTCAAAAATATTACCATTTGAAATTGATGCTGA  
CTAGAAACTACCAACCCATAAGCGAAAAGGTGTGTGACTTGAACGGAGTTATGAGCATCAACATTAG

4170.8 (SEQ. ID. NO. 295)

ATGATTGAATACAAAAATGTAGCACTGCGCTACACAGAAAAGGATGTCTTGAGAGATGTCAACTACAGATTGAGGATGGG  
GAATTTATGGTTTTAGTAGGGCCTTCTGGGTCAAGTAAGACGACCATGCTCAAGATGATTAACCGTCTTTTGGAAACCAACTGA  
TGGAAATATTTATATGGATGGGAAGCGCATCAAAGACTATGATGAGCGTGAACCTTCGTCTTTCTACTGGTTATGTTTTACAGG  
CTATTGCTCTTTTCCAAATCTAACAGTTGCGGAAAATATTGCTCTCATTTCTGAAATGAAGGGTGGAGCAAGGAAGAAATT  
ACGAAGAAAACAGAAAGAGCTTTTGGCTAAGGTTGGTTTACCAGTAGCCGAGTATGGGCATCGCTTACCTAGTGAATTATCTG  
GTGGAGAACAGCAACGGGTCGGTATTGTCCGAGCTATGATTGGTCAGCCCAAGATTTTCCCTATGGATGAACCCCTTTTCGGCC  
TTGGATGCTATTTTCGAGAAAAACAGTTGCAGGTTCTGACAAAAGAAATTCATAAAGAGTTTGGGATGACAACGATTTTGTAA  
CCCATGATACGGATGAAGCCTTGAAGTTGGCGGACCAATGCTGTTCTTGCAGGATGGAGAAATTCGCCAGGTAGCGAATCC  
CGAGACAATTTTAAAAGCGCCTGCAACAGACTTTGTAGCAGACTTGTTTGGAGGTAGTGTTCATGACTAA

4171.1 (SEQ. ID. NO. 296)

ATGTCAGCAGTTGCTATTTTCACTATGACCAAGGTTATGCAAGAAACCCACGGAAATCCTTCTAGTATTCATGGTCATGGTCCG  
TCAAGCTGGCAAACTCTTTCGAGAGAAGCCGTCAGGAACTAGCCAGTTACTAAGGACAAAACCTCAACATATCTTTTCACT  
TCTGGTGGGACTGAAGGCAATAATACTACCATCATTTGGCTACTGTCTTCGTCACCAAGAACAAAGGAAAAACATATCATACAA  
CTGCCATCGAGCACCATTGCTGCTTGAACAATTTGATTACTTGGTTCAACACTTTGGGTTTGAAGCAACCAATTATCCAGCCA  
GAAAATCAAGAAATCACAGCCAGCAAAATTCAAAAGGCTTTACGTGACGATACGATTTTGGTTTCTACCATGTTTGTCAATA  
ATGAGACAGGAAACCTACTGCCATCGCTGAAATTTGGCCAAATACTCAAGCAACACCCTGCTGCCTATCATGTTGATGCACT  
TCAGGCTATTGGTAAAAATCCCAATTCATTGAGAAGAAATTTGGCATTGATTTTCTACTGCTTCTGCCCAAAATTCATGGTCT  
CTAAGGGAATCGGTTTTCTCTACGCATCTAGCATTTGACACTTTGATTTCTATCTACATGGCGGAGACCAAGAACAGAAAAACG  
TGCAGGAACTGAAAATCTGCCTGCCATTGTAGGCATGGTTGCAGCCCTAAAAGAAAGACCTAGAAAAACAAGAAGAACATTT  
TCAACATGTACAAAATCTAGAACTGCCTTTCTGGCAGAGCTGGAGGGCATTTCAGTATTACCTGAATAGAGGAAAAACATCAT  
TCCCTTATGTTCTCAATTTGGATTTCCTGGTCAAGAAAATGCACTTCTACTCCTTCGGCTAGATTTAGCTGGAATTTCAATC  
TCTACTGGCTCAGCCTGTACTGCAGGCGTTGTCCAATCCAGCCATGTTCTTGAAGCCATGTATGGCGCAAATTCAGAACGCTT  
GAAGGAATCCCTTCGCATCAGTTTGTCCGCCACAAAATACCGTTGAAGACCTACAAACCCTCGCAAAAACCTTAAAAGAAATT  
ATCGGAGGTTAG

4172.1 (SEQ. ID. NO. 297)

ATGTTATTCAAATTATCTAAGGAAAAAATAGAGCTAGGCTTATCTCGTTTATCGCCAGCCCGTCGTATTTTTTGGAGTTTGGC  
TTGGTCAATTTACTAGGCTCTCTCTTTTGGAGCTTGCCCTTTGTCCAAGTTGAAAGCTCACGAGCGACTTATTTGATCATCTTT  
TCACTGCTGCTCTGCACTCTGTGTGACGGGTCTCTCAACCCTTCAGTAGCTCACACCTATAATATCTGGGGTCAAAATAATC  
TGTTTGCTCTTGATTACAGATCGGTGGTCTAGGGCTCATGACCTTTATTGGGGTTTTCTATATCCAGAGCAAGCAAAAGCTTAG  
TCTTCGTAGCCGTGCAACTATTCAGGATAGTTTATGTTATGGAGAACTCGATCTTTGAGAAAGTTTGTCTATTCTATTTTCT  
CAGCAGCTTTTGGTTGAGAGCTTGGGAGCTATTTTGTCTAGTTTTCGCTTATTCCTCAACTTGGCTAGGAGCTTGTCTTTT  
TAGTTCCATTTTCTAGCGATCTCAGCCTTCTGTAATGCCGGTTTTGATAATTTAGGGAGCACCAGTTTATTGCTTTTTCAGAC  
CGATTTACTGGTCAATCTGGTGATTGCAGGCTTGATTATTACAGCGGCCCTTGGTTTTATGGTCTGGTTTGATTGGCTGGTCA  
TGTAAGGAAGAAAGAAAAAGGACGCTCTGCACTTTCTATACGAAGCTTGTAATTTATTGACTATAGGTTTGGTTGTTATTGGAA  
CAGCACTACTCTCTTTCTTGAGTGGAAACAATGCTGGAACGATTGGCAATCTCCCTGTGCGGATAAGGTTTATGTTAGCTTT  
TTTCAACAGTGACGATGCGAACAGCTGGCTTTTCTACGATAGATTATACTCAGGCTCATCCTGTGACTCTTTTGATTTATATC  
TTACAGATGTTTCTAGGTGGGGCAGCTGGAGGAACAGCTGGGGGACTCAAGATTACGACATTTTGTCTCTTGGCTTTTGG  
ACGAAGTGAGCTTCTAGGCTTGCTCATGCCAATGTTGCGAGACGAACGATCGCGCCGCAACGGTTCAAAAATCCTTTAGT  
GTCTTTATTATCTTTTGTATGAGCTTCTTGATAGGATTGATTCTGCTAGGGATAACAGCCAAAGGCAATCCTCCCTTTATCCAC  
CTCGTATTTGAAACCATTTCAGCTCTTAGTACAGTTGGTGTAAACGGCAAATCTGACTCCTGACCTTGGGAAATTTGGCTCTCAG  
TGTTATCATGCCACTTATGTTTATGGG

ACGAATTGGTCCCTTGACCTTGTGTTAGCTTGGCAGATTACCATCCAGAAAAGAAAGATATGATTCACTATATGAAAGCA  
GATATTAGTATTGGTTAA

4172.2 (SEQ. ID. NO. 298)

ATGTCAGATCGTACGATTGGAAATTTTGGGCTTGGGAATTTTGGGAGCAGTGTCTAGCTGCCCTAGCCAAGCAGGATATGA  
ATATTATCGCTATTGATGACCACGCAGAGCGCATCAATCAGTTTGGCCAGTTTGGCGCGTGGAGTGATTGGTGACATCAC  
AGATGAAGAATTATTGAGATCAGCAGGGATTGATACCTGCGATACCGTTGTAGTCGCGACAGGTGAAAACTGGAGTCGAGT  
GTGCTTGGCGTTATGCACTGTAAGAGTTTGGGGGTACCGACTGTTATTGCTAAGGTCAAAAAGTCAGACCCGCTAAGAAAAGTGC  
TAGAAAAGATTGGAGCTGACTCGGTTATCTCGCCAGAGTATGAAATGGGGCAGTCTCTAGCACAGACCATTCTTTCCATAA  
TAGTGTGATGCTTTTCAGTTGGATAAAAAATGTGTCTATCGTGGAGATGAAAAATTCCTCAGTCTTGGGCAGGTCAAAGTCTGA  
GTAAATTAGACCTCCGTGGCAAATACAATCTGAATATTTGGGTTTCCGAGAGCAGGAAAAATCCCCATTGGATGTTGAATTT  
GGACCAGATGACCTCTTGAAAGCAGATACCTATATTTGGCAGTCATCAACAACAGTATTGGATACCCTAGTAGCATTGA  
ATTCGTAA

4172.3 (SEQ. ID. NO. 299)

ATGAAGTTATTGTCTATCGCAATTTCTAGCTATAATGCAGCAGCCTATCTTCATTACTGTGTGGAGTCGCTAGTGATTGGTGG  
TGAGCAAGTTGGGATTTTGATTATCAATGACGGGTCTCAGGATCAGACTCAGGAAATCGCTGAGTGTGTTAGCTAGCAAGTAT  
CCTAATATCGTTAGAGCCATCTATCAGGAAAAATAAATGCCATGGCGGTGGGTCAATCGTGGCTTGGTAGAGGCTTCTGGGC  
GCTATTTTAAAGTAGTTGACAGTGATGACTGGGTGGATCCTCGTGCCTACTTGAAAAATCTTGAAACCTTGCAAGAACTTGAG  
AGCAAAGGTCAAGAGGTGGATGCTTTGTGACCAATTTTGTCTATGAAAAGGAAGGGCAGTCTCGTAAGAAGAGTATGAGTT  
ACGATTCAGTCTTGCCTGTTCCGGCAGATTTTGGCTGGGACCAGGTCCGAAATTTCTCAAAGGCCAGTATACCATGATGCAC  
TCGCTGATTTATCGGACAGATTTGTTGCGTGCTAGCCAGTTCTAA

4172.4 (SEQ. ID. NO. 300)

ATGAAATTCATCCAAATCAAAGATATACTCGTTGGTCTATTCGCCGTCTCAGTGTCCGTGTTGCCTCAGTTGTTGTGGCTAG  
TGGCTTCTTTGTCTATTGGTACGCCAAGTTCTGTACGTGCCGATGGGCTCAATCCAACCCAGGTCAAGTCTTACCTGAAG  
AGACATCGGGAACGAAAGAGGGTGACTTATCAGAAAAACCAGGAGACACCGTTCTCACTCAAGCGAAACCTGAGGGCGTTA  
CTGGAATACGAATTCACCTCCGACACCTACAGAAAGAACTGAAGTGAGCGAGGAAACAAGCCCTTCTAGTCTGGATACACT  
TTTTGAAAAAGATGAAGAAGCTCAAAAAATCCAGAGCTAACAGATGTCTTAAAGAACTGTAGATACAGCTGATGTGA  
TGGGACACAAAGCAAGTCCAGCAGAACTCTCTGAGGATGAAAGGTGGAGTGAAAGAAATACAAAACCTTGCAAGCACTCG  
ATGTTCTGTGCTTATCTTGAAAAAGCTGAAGGGAAGGTCTTTCACTGCCGGTGTAAACCAAGTAATTCCTTATGAACATA  
TTCCGTGGTGATGGTATGTTAACTCGCTATTACTAAAGCTTCGGATAATGTCCTTGGTCTGACAATGGTACTGTAAAAA  
TCCTGCTTACCTCTCTGAAGGATTAACAAAAGGGAATACTTCTATGAAGTAGACTTAAATGGCAATCTGTTGGTAAAC  
AAGGTCAAGCTTTAATTGATCAACTTCGCGCTAATGGTACTCAAACCTTATAAAGCTACTGTTAAAGTTTACGGAATAAAGA  
CGGTAAAGCTGACTTGACTAATCTAGTTGCTACTAAAAATGTAGACATCAACATCAATGGATTAGTTGCTAAAGAAACAGTT  
CAAAAAGCCGTTGCAGACAACGTTAAAGACAGTATCGATGTTCCAGCAGCCTACCTAGAAAAAGCCAAGGGTGAAGGTCCA  
TTACACGACAGGTGTCAACCATGTGATTCCATACGAACTCTTCGAGGTGATGGCATGTTGACTCGTCTTGTCTAAGGCATC  
TGACAAGGCACCATGGTCAGATAACGGCGCAGCTAAAAACCCAGCCCTATCTCCACTAGGCGAAAAACGTGAAGACCAAAGG  
TCAATACTTCTATCAAGTAGCCTTGGACGGAATGTAGCTGGCAAGAAAAACAAGCGCTCATTGACCAGTTCCGAGCAAAAT  
GGTACTCAAACCTTACAGCGCTACAGTCAATGTCTATGGTAACAAGACGGTAAACCAGACTTGGACAACATCTGAGCAACTA  
AAAAAGCTACTATTAACTAAACCGTTAATTTCTAAAGAAACAGTTCAAAAAGCCGTTGCAGACAACGTTAAAGACAGTAT  
CGATGTTCCAGCAGCCTACCTAGAAAAAGCCAAGGGTGAAGGTCCATTACAGCAGGTGTCAACCATGTGATTCCATACGAA  
CTCTTCCGAGGTGATGGTATGTTGACTCGTCTTGTCTCAAGGCACTGACAAGGCACCATGGTCAGATAACGGTGACGCTAA  
AAACCCAGCCCTATCTCCACTAGGTGAAAACGTTAGAGCAAAAGGTCAATACTTCTATCAATTAGCCTTGGACGGAATGTA  
GCTGGCAAGAAAAACAAGCGCTCATTGACCAGTTCCGAGCAAAACGGTACTCAAACCTTACAGCGCTACAGTCAATGTCTATG  
GTAACAAAGACCGTAAACCAGACTTGGACAACATCGTAGCAACTAAAAAGTCACTATTAACATAAACCGGTTAATTTCTAA  
AGAAACAGTTCAAAAAGCCGTTGCAGACAACGTTAAGACAGTATCGATGTTCCAGCAGCCTACCTAG

4172.5 (SEQ. ID. NO. 301)

ATGAAACTAAAAAGTTATATTTGGTTGGATATATTAATTTCAACCCCTCTTAACCATTTTGGTTGTTTTTGGGCTGTTCAAAAA  
ATGCTGATTGGCAAGGCGAGATTACTTTTGGCTTGGGATGACCATCGTTGCCAGCCTTGTCCGTGCTGGGATTAGTCTCTT  
TCTCCTATTGCCAGTCTTACGTCGTTGGGCAAACTCAAGGAGCATGCCAAGCGGGTAGCGGCCAAGGATTTTCTTCAAATT  
TGGAGGTTCAAGGTCCTGTAGAAATTTAGCAATTAAGGCAAACTTTTAAATGAGATGTCCCATGATTGTCAGGTAAGCTTTGAT  
TCCTTGAAGAAAGCGAACGAGAAAAAGGGCTTGATGATTGCCAGTTGTCGCATGATATTAAGACTCTCACTTCGATC  
AAGCGACGGTAGAAGGGATTTTGGATGGGATTATCAAGGAGTCGGAGCAAGCTCATTATCTAGCAACCATTTGGACGCCAGA  
CGGAGAGGCTCAATAAAGTGGTTGAGGAGTTGAATTTTTGACCCTAAACACAGCTAGAAATCAGGTGGAAACTACCAGTAA  
AGACAGTATTTTCTGGACAAGCTCTTAATTGAGTGCATGAGTGAATTTTCAGTTTGTGATTGAGCAGGAGAGAAGAGATGTCC  
ACTTGCAGGTAATCCAGAGTCTGCCCGGATTGAGGGAGATTGCTAAGCTTTCTCGTATCTTGGTGAATCTGGTCGATAAAC  
GCTTTTAAATATTCTGCTCCAGGAACCAAGCTGGAAGTGGTGGCTAAGCTGGAGAAGGACCAGCTTTCAATCAGTGTGACCG  
ATGAAGGGCAGGGATTGCCCCAGAGGATTGGAAAAATATTTCAAACGCCTTATCGTGTGCAAACTTCGCGTAACATGAA  
GACAGGTGGTCATGGATTAGGACTTGGCATTGCGCGTGAATTGGCCCATCAATTGGGTGGGAAATCACAGTCAGCAGCCAG  
TACGGTCTAGGAAGTACCTTTACCTCGTTCTCAACCTCTCTGGTAGTGAATAAAGCCTAA

4172.6 (SEQ. ID. NO. 302)

ATGTTTGGTCAAACGGCTCAACATGGTCTTACGAATAGCCTGAAAGACTTCTGGATTTTCTGCTGAATATAGGTCCACAATT  
GGCGTTTTTTTGGCAGATGCTCCGCTGTTCCAGATCGGTTGAGCAGGGTACTGGAATCACCGTCGTGAGTTCAATATGATTC  
AGCAGATATTTCTCGCATTTTGGGATGACTCACTTGGGACAAATCAAGTTGGTCTATCAAGAGTCGATTGACCTTGAGTTGCTG  
GTCAATGCACCTTAATCATCACTTGTCTATTGACAGACTGGTCTCAGCCCCAATCAAATAACGATAGAAATCGACAGGCAGA  
TAGTACATGGTCTTGACCTGCTGAAGGGCGTAAAGACAAAGAGATTATCGACATAAAAAAGTATGTTGAGGAGTTAGAACT  
GGCTAGCACGCAACAAATCTGTCCGATAAATCAGCGAGTGCATCATGGTATACTGGCCTTTGGAGAAATTTCCGACCTGGTC  
CCAGCCAAAAATCTGCCGAACAGGCAAGACTGA

4174.1 (SEQ. ID. NO. 303)

ATGGAACATTTAGCAACTATTTTCAACCTATGGAGGAGCTTTCTTCGCTGCATTGGGAATTGTATTGGCGGTTGGATTAAAG  
CGGTATGGGGTCTGCTTATGGAGTTGGTAAGGCTGGGCAATCTGCCGAGCTTTACTGAAAGAACAGCCTGAAAAAGTTTGCC

TCAGCTTTGATATTGCAATTATTGCCCGGAACACAAGGATTATATGGTTTTGTTATTGGAATTTTAATTTGGTTGCAATTAAC  
CCAGAACTTCCTTTAGAAAAAGGCGTTGCTTATTTCTTTGTAGCTCTTCCAATTGCTATTGTAGGATACTTTTCAGCTAAGCAT  
CAAGGAAATGTAGCAGTAGCGGGAATGCAAATCTTGGCTAAAAGACCAAAAGAAATTCATGAAGGGAGCAATTTTAGCTGCC  
ATGGTAGAAACCTATGCAATTCTTGCTTTTGTCTATCATTCATTTTGACCTTCGTGTATAA

4175.2 (SEQ. ID. NO. 304)

ATGTTAAAAACAGAAAAACAATCACGTTATCAAATGTTAAATGAAGAATTGTCCTTCCTATTGGAAGGCGAAACCAATGTTT  
TGGCTAATCTTTCCAACGCCAGTGCTCTCATAAAATCACGTTTTCCTAATACCGTATTGCAAGGCTTTTATTTGTTGCGATGGAA  
AGGAATTGGTTTACGCCCTTCCAAGGAGGTGTTTCTGCTATCCGTATTGCACTAGGCAAGGGTGTGTTGGTGAGGCAGCT  
CACTTTCAGGAACTGTTATTGTTGGAGATGTGACGACCTATCTCAACTATATTTCTTGTGATAGTCTAGCTAAAAAGTGAAAT  
TGTGGTGCCGATGATGAAGAATGGTCAGTTACTTGGAGTTCTGGATCTGGATTCTTCAGAGATTGAGGATTACGATGCTATGG  
ATCGAGATTATTTGGAACAATTTGTGCTATTTTGTCTGAAAAGACAGCATGGGACTTTACGATGTTTGAGGAAAAATCTTAA

4175.3 (SEQ. ID. NO. 305)

ATGTCAGTATTAGAGATCAAAGATCTTCACGTTGAGATTGAAGGAAAAAGAAATTTTAAAAGGGGTTAACCTGACCCTGAAAA  
CAGGAGAAATTCGCGCTATCATGGGACCAATGGTACAGGTAAATCGACTCTTCTGCCGCTATCATGGGAAATCCAAACTA  
TGAAGTAACTAAAGGTGAAGTTTGTGTTGATGGCGTAAACATCCTTGAGTTGGAAGTGGATGAGCGTGCGCGTATGGGACTT  
TTCTTGTCTATGCAATACCCATCAGAAATCCCTGGAATTACCAATGCTGAGTTTCTTCGTGCCGCTATGAATGCGGGTAAAGA  
AGATGATGAGAAGATTTCAGTTCGTGAGTTTATTACTAAGCTAGATGAAAAAATGGAATTGCTCAACATGAAAGAAGAAATG  
GCAGAGCGTTACCTCAACGAAGGCTTCTCTGGTGGTGAGAAAAACGCAATGAAATTTCTTCAACTTTTGATGTTGGAGCCAA  
CATTTGCTCTTTTGGACGAGATTGACTCAGGTCTTGATATTGACGCTCTTAAAGTTGTGTCTAAAGGTGTCAATGCCATGCGT  
GGTGAAGGTTTGGTGCTATGATCATCACTCACTACCAACGCTCTTTGAACTATATCACACCTGATGTGGTACACGTTGATGAT  
GGAAGGTCGTGTTGCTCTTCTGGTGGTCCGAATTTGGTGGCGCTTTGGAACGTGAAGGATACGCAAAATTAGCTGAAGAA  
CTTGGCTACGACTACAAGGAAGAATTGTAA

4174.4 (SEQ. ID. NO. 306)

ATGCCCTACAAAAGACAAAGGAGTTTTCATGGCACTTTCTAAACTAGATAGCCTTTATATGGCAGTGGTAGCAGACCATT  
CGAAAAATCCACATCACCAAGGGAAGTTAGAAGATGCTGAGCAAAATCAGTCTCAACAAATCCGACTTGTGGGGATGTCATCA  
ACCTCTCTGTCAAGTTTGTATGCAGAGGACCGTTTGAAGATATTGCTTTTCTAAATTCAGGATGCACGATTTCAACTGCTTCT  
GCTAGTATGATGACAGATGCCGTTTTAGGAAAAACCAACGAAGAAATTTAGAACTGGCGACTATTTTCTGAAATGGTTC  
AAGGGCAAAAAGATGAGCGTCAAGACCAACTTGGAGACGCGGCATTCTTGTGAGGTGTGCCAAATTCCTCAAAGAATCA  
AGTGTGCAACCCTAGCTTGAATGCCCTTAAGAAAAACAATTGAAAATCAAGAAAAACAGTAA

4175.5 (SEQ. ID. NO. 307)

ATGAAAAATCAAGACCTATTGAGAAAAAGATGTCATGTTGCTAGATTTCGAGGCAACTGAAAAACAGCTGTCATCGACGAGA  
TGATTAATAAATTTGACAGACCACGGTTATGTAACAGATTTTGAACATTTAAAGAAGGAATTTTGGCGCGTGAAGCTTTGAC  
TTCTACTGGTTTGGGTGATGGAATCGCAATGCCTCACAGCAAAAACCGTGTCTCAAAAGAAGCGACAGTTCTATTGTCTAAG  
TCAAATAAGGGTGTGACTACGAGAGCTTGGATGGACAAGCAACTGACCTCTTCTTCATGATTGCAGCTCCAGAAGGTGCCA  
ATGATACTCACTTGGCAGCCTTGGCAGAAATGTCTCAATCTGATGAAAGACGGTTTGCAGACAACTTCGTCAAGCAAC  
ATCTGCAGACCAAGTTATCGAACTTTTGACCAAGCTTCAGAAAAAACTGAGGAACCTGTTCAAGCACTGCTAATGACTCT  
GGTGACTTTATCGTAGCTTGTACAGCTTGTACAACAGGTATTGCCACACTTACATGGCCCAAGAAGCCCTTCAAAAAGTAG  
CTGCTGAAATGGGGGTGGTATCAAGGTGCAAAACCAACGGTGTAGCGGTGTTGGAAATCAACTAATGCGAGAAGATATCCG  
TAAGGCTAAAGCTATTATCATTGACGAGACAAAGGCCGTTGAAATGGATCGATTGATGGAAAACCATGATCAATCGTCCA  
GTTGGTGACGGTATCCGTAAAGACAGAAGAGCTAATTAACCTTGGCTTTTCAGGAGATACTGAAGTCAACCGTGGCGCTAATG  
GTGCCAAAGCTGCAACAGCCTCTAACGAAAAACAAAGCCTTGGTGGTGCCTTGTACAAACACTTGATGAGTGGTGTATCTCA  
AATGTTACCATTCGTTATCGGTGGTGGTATCATGATTGCCCTTGCCTTCTTGATTGACGGTGCTTTGGGTGTTCCAAATGAAAA  
CCTTGGCAATCTTGGTTCTTACCATGAGTTAGCTTCTATGTTCAAAAAACCGGTTTGGTAGCAGGTTTCGTGGCTGGTGCTATTGCCAAAGAAG  
GTTTTGCCTTTGGTAAAATTCCTTATGCCGCGAGGTGGTGAAGCAACTTCAACTCTGCAAGGTGCTCATCTGGTTTCTAGGTG  
CCCTTGTGGTGGATTATCGCAGGTGCTTGGTCTTGCCATCAAGAAATACGTTAAAGTTCCTCGTTCCTCACTCGAAGGTGCT  
AAATCAATCCTTCTATTGCCACTTCTTGAACAATCTTGACAGGATTGTTATGCTAGCTGGAATATCCCAATGGCTGCAAT  
CAACACTGCTATGAATGACTTCTAGGCGGTCTTGGAGGAGGTTACGCTGCTCTTGGTATCGTCTTGGTGAATGATGG  
CTGTTGACATGGGTGGACCAAGTAAATAAAGCAGCTTATGTCTTGGTACAGGTACGCTTGCAGCAACTGTTCTTCAAGGTGGT  
TCTGTAGCCATGGCAGCAGTTATGGCTGGAGGAATGGTGCCACCACCTTGCAATCTTTGTGCGCAACTCTTCTTCAAGATAA  
ATTTACTAAGGAAGAAGCACTGAACTGTTTGAACAACATCATCTGGGCTTGTCAATTTATCACTGAGGGAGCGATTCCATTTG  
GTGCCGTGACCCAGCTCGTGCGATTCCAAGCTTCATCCTTGGTTCAGCAGTAGCAGGTGGACTCGTTGGTCTTACTGGTATC  
AAACTCATGGCGCCACACGGAGGAATCTTCGTTATCGCCCTTACTTCAAAATGCTCTCCTTTACCTCGTTTCTGTCTTGGTAGGA  
GCAATCGTAAGTGGTGTGGTTTATGGTTACCTACGCAACCAACAAGCATAA

4175.6 (SEQ. ID. NO. 308)

ATGGCAACAAGAATACAAGTACAACAAGACGGAGACCGTCTAAAGCAGAACTGGAAAGAAAAAGCGATTCAACGAAT  
GTTGATTTTCGTTAGGAATTCGATTTTATTGATTTTCGAGCCTTCAAATTAGGGGCTGCAGGTATAACCTTTTATAATTTAAT  
TCGCTTGCTAGTGGGTAGCCTAGCTTATCTGGCGATAATCGGCTATTAATCTATCTCTTTTCAAGTGGATACGAAAAACA  
GGAAGGACTCTTATCTGGCTTTTTCACCATATTTGCTGGCTTACTCTTGATTTTGGAGCCTACTTGGTTTGGAAATATGGTTT  
GGACAAGAAGAGACTGAAAAAGGACCAATGGCTCAGGTTGTGACAGATCTGACTGGTTTTCGAACGACTAGCTTTGCTGGAGGG  
GGCTTGATCGGGGTCGCTCTTTATATTCCAACAGCCTTCTCTTTTCAAAATATCGGAACCTACTTTATTGGTTCTATCTTGATTT  
TAGTGGGTTCTCTCTAGTCAGCCCTTGGTCTGTTACGATATTGCTGAATTTTTCAGTAGAGGCTTTGCCAAATGGTGGGAA  
GGGCACGAGCGTCGAAAAAGAGGAACGCTTTGTCAAACAAGAAGAAAGCTCGCCAAAGGCTGAGAAAGAGGCTAGATT  
AGAACAAGAAGAGACTGAAAAAGCCTTACTCGATTGGCTCTGTTGATATGGAAACGGGTGAAATTCGACAGAGGAAGC  
TGTTCAAATCTTCCACCTATCCAGAAGAAAAGTGGGTGGAACCAGAAATCATCTGCCTCAAGCTGAACCTAAATTCCT  
GAACAGGAAGATGACTCAGATGACGAAGATGTTCAAGGTCGATTTTTCAGCCAAAGAAGCCCTTGAATACAAACTTCAAGCT  
TACAACCTTTTGCACCAGTAACCAAAAAGATCAGTCAAGAGAAGAAATTTGTCAGAGAAAAATATCAAAATCTTGAAG  
CAACCTTTGCTAGCTTTGGTATTAAGGTAACAGTTGAACGGGCGGAAATTTGGCCATCAGTGACCAAGTATGAAGTCAAGCC  
GGCTGTTGGTGTAAAGGGTCAACCGCATTTCCAATCTATCAGATGACCTCGCTTAGCCTTGGCTGCCAAAGATGTCCGGATTG  
AAGCACCAATCCCTGGGAAATCCCTAATCGGAATTGAAGTGCCCAACTCCGATATTGCCACTGTATCTTCCGAGAAGTATG

GGAAACAATCGCAAACGAAAGCAGAAAAATTTCTTGAAATTCCTTTAGGGAAGGCTGTTAATGGAACCGCAAGAGCTTTTGAC  
CTTTCTAAAAATGCCCACTTGCTAGTTGCAGGTTCAACGGGTTCAAGGAGTCAGTAGCAGTTAACGGCATTATTGCTAGCAT  
TCTCATGAAGGCGAGACCAGATCAAGTTAAATTTATGATGGTCGATCCCAAGATGGTTGAGTTATCTGTTTACAATGATATTC  
CCCACCTCTTGATTCAGTCGTGACCAATCCACGCAAGCCAGCAAGGCTCTGCAAAAGGTTGTGGATGAAAATGGAAACCG  
TTATGAACCTCTTTGCCAAGGTGGGAGTTCCGAATATTGCAAGGTTTAAATGCCAAGGTAGAAGAGTTCAATTTCCAGTCTGAGT  
ACAAGCAAATTCGGCTACCATTCATTGTCGTGATTGTGGATGAGTTGGCTGACCTCATGATGGTGGCCAGCAAGGAAGTGA  
AGATGCTATCATCCGTCTTGGGCAGAAAGGCGCTGCTGCAGGTATCCACATGATTTCTTGCAACTCAGCGTCCATCTGTTGATG  
TCATCTCTGGTTGATTAAGGCCAATGTTCCATCTCGTGTAGCATTTGCGGTTTCATCAGGAACAGACTCCCGTACGATTTTGG  
ATGAAAATGGAGCAGAAAAACITCTTGGTCGAGGAGACATGCTCTTTAAACCGATTGATGAAAATCATCCAGTTCTGCTCCA  
AGGCTCCTTTATCTCGGATGACGATGTTGAGCGCATTGTGAACCTTCATCAAGACTCAGGCAGATGCAGACTACGATGAGAGT  
TTTGATCCAGGTGAGGTTTCTGAAAATGAAGGAGAATTTTCGGATGGAGATGCTGGTGGTGATCCGCTTTTGAAGAAGCTA  
AGTCTTTGGTTATCGAAACACAGAAAGCCAGTGCCTCTATGATTACGCGTCGTTATCAGTTGGATTTAACCGTGCCGACCCGT  
CTCATGGAAGAACTGGAGATAGCAGGTGTCATCGGTCCAGCTGAAGGTACCAAACTCGAAAAGTGTACAACAATAA

4176.1 (SEQ. ID. NO. 309)

ATGAGTTATTTTAAAAAATAAAATTCGATAAATCCCAGTTCAAACTTGGTATGCGAACCTTTAAACAGGTATTGCTGTTTT  
TCTAGTTCTCTTGATTTTGGCTTTTTTGGCTGGAAAGGCTCTCAAAATGGTGCTTTGACAGCCGTTTTAGCCTGAGGGAGAG  
TTTTGATGAGAGTGTTTCAATTTGGGACTTCGCGTATTCTAGGAAATAGTATCGGTGGACTCTATGCCTGGTCTTCTTCTATT  
AAATACCTTTTCCACGAAGCCTTTGGGTGACCTTGGTAGTTGTTTCAATCTGCACCATGTTAAACCATTTAGACAAATGTAG  
CCATGAATAACAAAGCAGGGGTTATTGGTGGTGTAGCAGCTATGTTAATCATTACCCTATCAATTTCAAGTGGTGAGACAAT  
TTGTACGTGTTGTGCGTGTATTAGAAACGTTTATGGGAGTTTTTGTGCAATTATCGTAAATTACGATATTGATCGTATTTCG  
TCTCTTTTATAGAAAAAAGAAAAATAA

4178.2 (SEQ. ID. NO. 310)

ATGAATAAATCAGAACCCGCCACCAACTTATACGCGCTCTTATCACAAAAACAAGATTCATACACAGGCTGAGTTGCAAG  
CCCTTCTTGCTGAGAACGACATTCAAGTAACCCAGGCAACCCTCTCAGCGACATCAAAAAATATGAACCTATCAAAAGTCCG  
CGAAGAAGATAGCGCTTATTATGTTCTTAAACAATGGTTCCATCTCAAAATGGGAAAAACGCTCTGAACTCTACATGGAAGAC  
GCCCTGTCTGGATGCGCCAGTTCAACACCAAGTCTACTAAAAACCTTCTCGGACTGGCTCAATCCTTTGGTTCTATCATT  
GATACTTTGAGCTTCCCTGACGCTATCGCTACCTTTTGGTGAATGATGCTGTCTTATCATCTGTGAAGATGCAGATACTGCT  
CAAAAGTGCTTTGAAGAACTGAAAAAATTCGCCCCACCATTTTCTTTGAAGAATAA

4179.1 (SEQ. ID. NO. 311)

ATGAAAAGTATAAAATGCTCTATCTTACATGGGAATTCGTGCTTGAATATTATTTTCCCATCCTAACTGGAACCTA  
TGTCGCGGTGCTTGGACCGAACTGACTATGGTTACTTCAACTCAGTCGACACTATTTTGTCATTTTTCTTGCCCTTTGCAAC  
TTATGGTGTCTATAACTACGGTTTAAAGGGCTATCAGTAATGTCAAGGATAACAAAAAGATCTTAACAGAACCTTTTCTAGTC  
TTTTTATTTGTGCTACGCTTGTACGATTTTGACCACTGCTGTCTATATCCTAGCCTATCCTCTCTTCTTACTGATAATCCAA  
CGTCAAAAAAGGCTACCTTTGTTATGGGGATTCAACTCATTGCCAGATTTTTTCAATCGAATGGGTCAATGAAGCTCTGGA  
ATTACAGTTTTCTCTTTTACAAAACCTGCTTCATCCGTATCCTGATGCTGGTCTCTATTTTCTTATTTGTTAAAAATGAACACG  
ATATTGTTGTCTATACACTTGTGATGAGTTTATCGACGCTGATTAACTACCTGATTAGTTATTTTGGATTAAAAAGAGACATCA  
AACTTGTTAAAAATCACCTAAGTGATTTTAAACCACTTCTTCCCTCTGACAGCCATGTTAGTCTTTTGGCAATGCCAATGATG  
TCTTCACTTTTTTATAGTCCGCTTCTCTCGTTAAAAACAGGGATTGATGTCAACGTTAGTTACTATACCATAGCTCAGCGAATTG  
TGACCGTTATAGCTGGGGTTGTAACAGGTGCAATTGGAGTGAGTGTGCTCAGTTACTATCTGGGGAAGGAGACAA  
AGAAGCCTATGTTTCTTGTTAATAGAGGTAGTCGAATCTTAACTCTTTATCATTTCCACTGAGTTTTGGACTCATGGTTTT  
AGGCAAAATGCCACTCTTACGGTAGTGAAAAATATATCGGAGGCGGCATCTTGACCTCTCTCTTCGCTTTTCGTACGA  
TTATCCTGGCCTTAGATACCAATTCTTGGTTCCCAAATTCTCTTACCAATGGCTATGAAAAACGTATCACAGTCTATACAGTCT  
TTGCTGGGCTACTCAATTTGGGCTTGAATAGTCTCTTTTTTCAACCAATATCGTGGCTCCTGAATACTACTTACTGACAATA  
TGCTATCAGAGACTTCTACTTGTCTTCTATATCATTTTATCCATAGAAAAACAACCTATCCACTTTGGATAAAACAATCTTTAGCT  
ATAGTTTCGATACTCTCTTCTTTCACCTTTTGTAGCAATTTATTTCTGATTAATTTCTGTATCTCTGTAGATATGGTCAT  
TAATTTGCCATTTTGGATTA  
ATAGTGGTTGATTTGCTTGTATCAGCTATCTCTTATATTAGTCTACTTGTCTTACAAAAAGATAGCATTTTCTATGAATTTT  
AAACCATGTCCTAGCCTTAAAAAATAAATTTAAAAAATCATAG

4179.2 (SEQ. ID. NO. 312)

ATGAAACAATAACCGTTGAAGATGCCAAACAAATTGAATTAGAAATTTTGATTATATTGATACCTCTGTAAAAAGCACA  
ATATCAACTATATTATTAACCTACGGTACTGATTGGGGCGGTCGACATGAGGGCTTTATCCCTTGGGACGACGATATTGAT  
CTGTCCATGCCTAGAGAAGACTACCAACGATTTTAAACATTTTCAAAAGGAAAAAAGCAAGTATAAGCTCCTATCCTTAG  
AAACTGATAAAGAACTACTTTAAACAATTTATCAAGATAACCGACAGTACGACTAAAAATTATGATACTCGAAATACAAAAAC  
CTATGAGTCTGGTATCTTTATCGATATTTTCCCTATAGATCGCTTTGATGATCCTAAAGTCAATTGATACCTTGTATATAAACTGG  
AAGCTTCAAACTGCTGTCTTTTCAAGTAAACATAAAAAATATTGTCTATAAGGATAGCCTTTTAAAAAGATTGGATACGAACAGCCT  
TCTGGTTACTCCTTCGACCGGTTTCTCCTCGTTATTTGCAAAATAAAATCGAGAAAGAAATTCAAAAAATATAGTCGTGAAAAAT  
GGGCAATATATGGCTTTTATCCCTTCAAAATTTAAGGAAAAGGAAGTCTTCCCAAGTGGTACCTTTGGATAAAACAATCGATTT  
ACCCCTTTGAGAAATTTAAGCCTTCTGCACTGAAAAATTTGATCAATTGACACAATTTTATGGAGATTATATGACCCTAC  
CACCAGAAGAAAAACGCTTCTACAGTCATGAATTTACGCTTATAAATTTGGAGGATTAG

4179.3 (SEQ. ID. NO. 313)

ATGATAAAAAATCAATCATCTAACCATCACACAAAAACAAAGATTACGAGATCTTGATCTGACCTAACCATGACCATCCAAG  
ACGGGGAAAAAGGTTGCTATTATTGGTGAAGAAGGAAATGGCAAAATCAACCTTACTTAAAAATTTTAAATGGGGGAAAGCTTTGTC  
TGATTTCACTATCAAGGGAACATCCAATCTGACTATCAGTCACTGGCCTACATTCCTCAAAAAAGTCCCTCAAGGACCTAAAA  
AAGAAAACCTTTACACGACTACTTTTATGATTCTATTGATTTAGACTACAGTATCCTCTATCGTTTGGCGGAGGAATTGCAT  
TTTGATAGCAATCGTTTCGCAAGTGACCAAGAGATTGGCAATCTATCAGGGGGCGAAGCTTTGAAAAATTCAGCTTATCCATG  
AGTTAGCCAAACCTTTGAGATTCTATTTTATAGTAACCTTCAAAATGACCTAGACCTTGAGACAGTTGATGGCTAAAAGGC  
CAGATTCAAAAGACCAAGCAACCGTTATTTTCAATTTCCCATGATGAAGACTTTCTTTCTGAAACCGGACAGACTATTGTTCA  
CTTGGCACTGGTCAACACCGTAAAGAAAGCGGAAACGCTAGTAGAGCATTTAGACTATGATAGCTATAGTGAGCAGAGAAA  
GGCTAATTTTGGCAAAACAAAGTCAGCAAGCTGCTAACAACCAAGAGCCTACGATAAAACCATGGAAAAACATCGGAGAGT  
TAAGCAAAATGTAGAAACTGCGCTTCGAGCTACCAAAAGATAGTACTGCCGGTCCCTATTGGCTAAAAAGATGAAAACCTGTC

CTCTCACAAGAAAAACGCTACGAAAAGGCAGCTCAGTCCATGACTCAAAAGCCACTTGAAGAGGAACAAATCCAACCTTTCT  
TTTCAGACATCCAACCATTAACAGCTTCTAAAGTCTTAGTCCAACCTGGAAAAAGAAAATTTGTCCATTGACGACCGAGTTTG  
GTTCAAAAACCTACAACCTAAGTGTCCGTGGCCAAGAAAAAATCGGTATTATCGG  
GCCAAATGGTGTGGGAAATCAACTCTGTAGCCAAGTTACAGAGACTTCTGAATGATAAAAGAGAGATTTCACCTTGGTTTT  
ATGCCACAAGATTACCACAAAAAAAGTGAATTTGGATTATCCCAATAGCCTATCTCAGTAAAACCTGGGGAAAAAGAGGAA  
CTACAGAAAAATCCAATCTCACCTAGCTAGTCTCAATTTCAAGTTATCCAGAAATGCAGCATCAAATTCGCTCCTTATCTGGCGG  
ACAACAGGGAAAACTCCTGCTTTTGGATTAGTCTGCGCAAAACCAAACTTTCTCCTGCTGGATGAACCCACACGAAACCTTT  
CTCCCACTTCTCAACCCCAATCAGAAAACTTTTGCTACCTATCCAGGCGGTCTCATCACTGTTTCGCATGACCGTCTTCT  
TAAAAGAACTTCTGCTCATCTATCGCATGACAGAACCGGTTTGAAGCTAGTTAATTTAGAAGATTTATAA

4179.4 (SEQ. ID. NO. 314)

ATGAAACCAAAAAACATTTTACAACCTTGCTTGCCGAGCAGAATCTTCCACTTTCCGACCAGCAAAAAAGAACAAATTTGAACGTT  
ATTTTGAGCTCTTGGTTCGAGTGGAATGAGAAGATTAATTTGACGGCGATTACGGACAAGGAAGAAATTTATCTCAAACATTT  
TTACGATTTCGATTGCACCCATTCTTCAAGGTTTGATTCCCAATGAAACTATCAAACCTTCTTGATATCGGGGCTGGGCGAGGAT  
TTCTAGTCTACCAATGAAAAATCTCTATCCGGAGTTAGATGTGACCAATTATTGATTCACTCAATAAGCGCATCAACTTCTTA  
CAACTCTTGGCTCAAGAACTGGATTGAAACGGAGTTCAATTTTACCAACGGACGTGCCGAAGATTTTGCCCAAGACAAGAACT  
TCCGTGCTCAATATGATTTTGTAAACAGCTCGTGGGTTGCCCGTATGCAGGTCCTATCTGAATTGACTATTCCTACCTTAAGG  
TTGGTGGCAAACTATTAGCACTCAAGGCTAGCAATGCGCCTGAGGAATTATTAGAAGCTAAGAAATGCCCTCAATCTCTTTTT  
AGTAAGGTGCGAAGACAATCTCAGTACGCCCTACCGCAATAGAGATCCGCGCTATACAGTGGTAGAAAAAGAAAAAGAAA  
CACCAATAAATATCCACGTAAGGCTGGTATGCCAAATAAACGCCCACTTTAA

4179.6 (SEQ. ID. NO. 315)

ATGAGTATTAACTAAATTTGCCGTTGATATCGACGGAACCCCTGTCAACAGCCAAAAGGAAATCACTCCTGAAGTTTTTCTGC  
CATCCAAGATGCCAAAGAAGCTGGTGTCAAAGTCGTATTGCAACTGGCCGCCCTATCGCAGGCGTTGCCAACTTCTAGAC  
GACTTGCAGTTGAGAGACGAGGGGACTATGTGGTAACCTTCAACGGTGGCCTTGTCCAAGAACTGTCTACAGGACATGAGA  
TTATCAGCGAATCTTGAATATGAGGATTATCTAGATATGGAATTCCTCAGTCGCAAGCTCGGTGTCCACATGCATGCCAT  
ACCAAGGACGGTATCTATCTGCAAAATCGCAATATCGGAAAAATACACTGTACACGAATCAACCCTCGTCAGCATGCCTATCT  
TCTACCGTACCCCTGAAGAAATGGCTGGCAAGAAATTTGTTAAATGTATGTTTATCGATGAACCAGAAATCTCGATGCTGC  
GATTGAAAAAATTCAGCAGAAATTTACGAGCGCTACTCCATCAACAAATCTGCTCCTTTCTACCTCGAATCCTTAAAAAGA  
ATGTAGACAAGGGTTACGCCATTACTCACTTTGGCTGAAAAACTCGGATTGACCAAGATGAAACCATGGCAATCGGTGATGA  
AGAAATGACCGTGCCATGCTGGAAGTCGTTGGAAACCCGTTGTCATGGAAAAATGGAATCCAGAAATCAAAAAAATCGC  
CAATACATCACCAAAACAAATGACGAATCCGGCGTTGCCCATGCCATCCGAACATGGGTACTGTAA

4179.7 (SEQ. ID. NO. 316)

ATGACTTGGATTATCTTGGAGTTATCGCTCTTATTGTTATTTTGTGATTGTTAGCTATAACGGTTTGGTTAAAAATCGTATG  
CAAACCAAGGAGGCTTGGAGTCAGATTGATGTTCAAGTTGAAACGTCGCAATGACCTCTTGCCAACTTGATTGAGACTGTAA  
AAGGTTATGCCAAATATGAAGGTTCTACCCTTGAAAAGGTTGGCAGAACTACGTAACCAAGTGGCGGCAGCGACTTCACCAG  
AGAAGCTATGAAAGCCAGTGATGCCCTCACTCGTCAGGTTTCAGGTATTTTGCAGTTGCAGAAAGCTATCCAGATTTGAAA  
GCTAGTGCTAACTTTGTTAAATTTGCAAGAGGAGTTGACAAACACAGAAAAATAAATTTCTTACTCTCGTCAACTCTATAACA  
GTTGTGTCAGCAACTACAATGTAATAATAGAACTTTCCCGCAATATTATCGTGGAAATGTTTGGATTAAAGCGGCAGA  
TTTCTTCAACACCTGAAGAGGAAAAAGTCGGTTCTTAAAGTTGATTTTAGCGGTTAGGTGACTAA

4179.8 (SEQ. ID. NO. 317)

ATGTTGTTTGATCAAAATGCAAGCAATAAACGAAAAACCTGGATTTTGTGCTGGTATTTTCTCTACTCTTAGCTCTTGTGGT  
TATGCGGTTGGTTATCTCTTTATAAGATCTGGACTTGGTGGTTTGGTTATTGCACTGATTATCGGCTTTA1CTACGCTTTGTCT  
ATGATTTTCAATCGACAGAGATTGTCATGTCCATGATGGAGCGCGTGAGGTGGATGAGCAACGGCACCAGACCTCTACC  
ATGTAGTGGAAGATATGGCTCTGGTCTGCTCAGATTCCTATGCCCGTGTTCATCATTGATGATCCAGCCTTAAATGCCTTTG  
CGACAGGTTCTAATCCTCAAAAATGCGGCTGTGCTGCGACTTCAAGCTCTACTAGCTATCATGAATCGTGAAGAACTAGAAGC  
TGTTATGGGACATGAAGTCAGTCATATTCTGAATATGATATCCGTATTTGCACTATTGCAAGTTGCCCTTGCTAGTGCTATCAC  
CATGCTTTCTAGTATGGCAGGTCGTATGATGTGGTGGGTTGGAGCAGGTCGAGACGAAGTGATGATGACCGAGATGGAAT  
GGTCTTGAAATCATTATGCTAGTGTTTCCCTACTAGCTATTGCTAGGCACTCTCGCTGCAACCTTGGTTCAAGCTCGCTATT  
TCTCGTCAGAGGGAATTTCTGGCAGATGCATCTAGTGTGAGCTGACTCGCAATCCCCAGGGAATGATTAATGCCCTAGATA  
AGTTGGACAATAGCAACCTATGAGTCGCCACGTCGATGCTAGCAGTGCCCTTTATATCAATGATCCTAAGAAAGGTGG  
GGGGTTCAAAAACCTCTTTTATACCCACCCACCTATCTCAGAACCGATTGAACGTTTAAACAGATGTAA

4179.9 (SEQ. ID. NO. 318)

ATGAAATTAATAATCAAGAAATTCGTAAGCAGTCTGAAGGTTTGAACCTTTGAACAAACGTTAGATTAGTTGATGACCTGC  
GTGCACGTAATCAAGAAATTTAGATGTAAAAGATATCCTTGCAAGTTGGGAAAGTACAATATGAAGACCGTATGTATTCTT  
AGATTATCAACTATCTTATACCATTTGTTCTTGTCTCGAGTCGAGTATGGAGCCAGTTGAGTTAGTTGAATCTTATCCAGTCAC  
GGAAGTTTTTCATGGAAGGCGCAACTAACCAGCTAGATCAAGAGTTTTAGATGATGACTTGGTCTTGCCCATCGAAAAATGGG  
GAGCTTGACCTTGCTGAGAGTGATCAGACAATATCCTGCTAAACATTCTATCAAGGCTTGACGGCTGAAGAAGAAGCTG  
GTCAAGGATTTATCTCAGGAAATGACTGGCAATCTAGACAGGGAAGAAATACCAAGCTCAAAAAGCAGTAAAGAAAGAAAG  
AAAACAGTCTTTTGTGCTGGCTTACAAGGACTATTTGACGGAGATGAATAA

4179.12 (SEQ. ID. NO. 319)

ATGGAGTTATTTATGAAATCACAACTATGAAATCTATAAGTTAAAAAAATCAGGTTTGACCAATCAACAGATTTTGAAAG  
TGCTAGAATACGGTGAAATGTTGATCAGGAGCTTTTGTGGGTGATATTGCAGATATCTCAGGTTGCCGTAATCCAGCCGTT  
TTTATGGAACGTTATTTTTCAGATAGACGATGCGCATTTGTGCAAAAGAGTTTCAAAAATTTCCATCTTTCTATTTTATAGATGAC  
TGTTATCCTTGGGATTTGAGTGAAATATGATGCGCTGTACTTTTATTTACAAGGGAAATCTTGACCTCTGAAAATTTCCCG  
AAGGTAGCGGTCGTGGGCACTGCTGCTGTAGCAACAGGGAGCTAAGTCAGTTGAAAAAGTCATTCAAGGCTTGAAAAAT  
GAACCTGGTTATTGTCAGTGGTCTGGCCAAGGGCATTTGACACAGCAGCTCATATGGCAGCTCTTCAAGATGGCGGAAAAACCA  
TTGCAGTGATTGGAACAGGACTGGATGTGTTTTATCTAAAGCCAATAAACCGCTTGCAAGACTACATCGGCAATGACCATCT  
GGTTCTAAGTGAATATGGACCTGGTGAACAACCTCTGAAATTTCTTTCTGCCGTAATCGCATCATTGCTGGACTTTGTC  
GTGGTGTGATTGTAGCAGAGGCTAAGATGCGTTCAAGTGTCTATTACGTTGTGAGCGAGCAATGGAAGAAGGACCGCATGT





TACAGGCTATATCTTTAAAAAGGCTCTTGCAATGGAGGAACCTCCATCTCGATGAAAGAGCATGGAAACAAGGACTGTTCCAA  
GTCTGGCTCTTCCTTCTTCGTTTCTTCGTTTCGTCATTCCAATCATCATCATTGTGGTCTTCATTGCCCAATTTATGTAATCAA  
AAGGACTTGAGTAG

4183.5 (SEQ. ID. NO. 323)

ATGTTGAAAAAATGGCAGTTAAAGATGTTATCTTGCTTGCTTCTTGTCTATCTTTTTTGGTGGGGTTTTCTGTTGGTTACAGGA  
TATGTGTATAATATCTCAGTCTACTCTTAACACCTCTTGTTTGCAGGCCCTTTGCCAATGAAATCCTCTTCGGTCTCTGGTGT  
ATGGCTGCGCCCATTTGCTGCCATCTTTGTTCCGAGAGTCGGAAGTGCAACGATTGGAGAAGTGCTAGCTGCGCTTGCTGAAG  
TCCTTTATGGTAGCCAATTTGGTCTAGGAGCTCTTTGTCTGGCTTTGTTCAAGGTTTGGGAAGTGAATTTGGTTTTATCGTAA  
CTAAGAATCGCTATGAAAGTTGGCTCTCTCTAACTGCTAATAGTATTGGGATTACGCTTGTTAGCTTTGTCTATGAATACATT  
AAGTTAGGTTACTACGCCCTTTCCCTTCCGTTTGTCTTTCCTTGCTTGTTGGTACGTTTTATTTCTGTTTATTTCTCTGTACCAT  
CTTGGTTCTGGCCATTGTCAAACCTATCATCAGTTTGCAACTGGAGGAAAAGCATAG

4183.6 (SEQ. ID. NO. 324)

ATGGTCAAAGTAGCAACCCAGACACCGATTATCAGTCTCTTCTTGCTGATTTTATCCTTGGAACATCTTTCAATCCTTCGATT  
GCTCTGACTCTTTTCGGTAGTCGCATTTTGTATCTCTTTATGCTCTATTACCGTCGATTTAAATGTTAGCTTGGATGATCATA  
CTTGCCATTTTACCATCTTTTGCCAACTACTGGGCAGTTACAGTTACACGGAGATGCTTACACGGCAGTCATGCTTGGAAACGAG  
GGCCTTTGTGACAGTTTGTATCGGCCCTTGTCTTTGTTTCTCTGTTTCACTAAAAGAGCTTCTCTGTACTTGGCTCAAAAGGG  
GCTATCACGCTCTTTGGTCTATGCCTTGATTGTGGTATTCATTTCTTTCCCTCTCATTACAGCAAGAAATCAAGTCCCTCAAAGA  
AGCTTGCCTATTACGTGGTCAAGAACTACATTTTGGTCGCCCTTGATTACAGTAAGGTTCTGATGACAGTCTTTAGGTGGC  
GCCATCTTTACCTGAGAGCTCTATCTGCTCACGGATATGACGAACATGCACAGTTGAAGAATAGCTATCGGACTTTTTATATT  
CCTAAAAAACAATAATCTACCTGCTTTCTTTTATTGCTTCAAAACAGTCTATTTTATAA

4183.7 (SEQ. ID. NO. 325)

ATGAGAAAGCAACCAATTACAAGTTACAAAATTAACCATTTTATCTATGATGATTGCCCTTGATGTAGTCCTTACACCTATCTT  
TCGAAATGAGGGAATGGCACCAGTGTCCAGTGTAGTCAATATTCTAGCAGGAATCATGATGGGACCTGTTTATGCCTTGGCT  
ATGGCTACAGTCACAGCCTTTATCCGTATGACGACTCAAGGGATTCCGCCCTTAGCTCTACAGGAGCGACTTTTGGAGCCCT  
TCTAGCAGGTCTCTTTATAAGTACGGTCGAAAAATTCACATTTCTGCTCTAGGAGAGATTTTGGGAACAGGTATTATTGGTT  
CCATTGTTTCTATCTGTTATGGTACTCTTTACAGGATCAGCTGCTAAGCTTAGCTGGTTTATCTACACGCCCTCGATTTTTCG  
GAGCAACCTTGATTGGTACAGCGATTTCCTTTATTGCCTTCGATTTTAAATCAAGCAGGAATTCTTTAAAAAAGTGACAGGGA  
TATTTCTTTAGTGAAAGGATAGACTGA

4183.8 (SEQ. ID. NO. 326)

ATGCAGGAATTTACAAATCCCTTTCTATAGGCTCTAGTTCCCTCAATCACTGCATTACCAATGAGATTTCTTGTGAGATGCTG  
GCAATGGGATTTTGGCTCTGGGATGCAAACTGTCTGTCAGATGATTCCCGTGAAGTTCTTGATTTTACTAAGCAAAGTCA  
GGCTCTCTTCACTAATTTGGGGCATTTGTGAGCTGAGAAGGAAAAAGCAATCCGCATGGCAGCTTCGATGCAAAACCAATCT  
TCTCTCCCGATGGTAGATGCGGTTGGCGTAACGACTTCATCCATTTCGTAAGAGCTTAGTTAAAGACCTTTTAGACTATAG  
ACCTACGGTCCTTAAAGGAAACATGTCAGAAATTCGAAGTCTTGTGGATTAAAGCACCACGGCGTTGGGGTCGATGCGAGT  
GCTAAAGATCAAGAAACGGAGGATTGCTTCAAGTCTTGAAGACTGGTGTGACACCTATCCTGGTATGTCTTTCTTAGTCAC  
AGGTCCCAAGGACCTCGTCTTTGCAAAAAATCAGGTCGCTGACTGGGAAATGGCTGTACTGAATTAGACTGGATAACAGGG  
ACAGGAGACTTGGTTGGAGCCTTAACAGCTGTTTTCTCAGCCAAGGAAAGACTGGTTTTGAAGCTTCTTGTCTAGCAGTCTC  
TTATCTCAATATCGCTGCTGAGAAAAATAGTTGTTCAAGGAATGGGATTGGAAGAATTTCTGTTACCAAGTACTCAATCAGCTTT  
CGCTCCTAAGAAGAGATGAAAAATTGGCTAGATACCATCAAAGGAGAGGTTTATGAATAG

4185.3 (SEQ. ID. NO. 327)

ATGAACCATAAAATCGCAATTTTATCAGATGTTTCATGGCAATGCGACGGCGCTAGAAGCAGTGATTGCAGATGCTAAAAATC  
AAGGGGCCAGTGAATATTGGCTTCTGGGAGATATTTTCTTCTGCTGTCAGGGCGCAATGACTTAGTCGCCCTGCTAAAGGAC  
CTTCTATCACAGCAAGTGTTCGAGGCAATTGGGATGATCGTGTCTTGAGGCTTTAGATGGGCAATATGGCTTAGAAGACC  
CACAGGAAGTTACAGCTTTGCGTATGACACAGTATTTGATGGAGCGCAATGGATCCTGCAACGATTGTCTGGCTACGAAGCTT  
GCCTTTGTCTGGAAGAAAGAAATTTGACGGATTGCGCTTTCTATCTCTCATAATTTACCTGACAAAACTATGGTGTGACT  
TGCTAGTTGAGAATGATACAGAGAAAATTTGACCAACTGCTAGATGCGGAAACGGACGTGGCAGTTTATGGTCATGTTCAAA  
GCAGTTGCTTCTGTTATGGAAGTCAAGGGCAACAAATCATCAATCCAGGTCGATTGGCATGCCCTATTTTAAATTTGGGAGCGC  
TTAAAAAATCACCGTTCCAGTATGCCGTGATAGAAGTTGAAGATGGGAAATTAATCAATATCCAAATTCGTAAGTTGCTTA  
TGATTACGAAGCTGAGTTAGAATTGGCCAAGTCCAAGGGGCTTCCCTTTATCGAAATGTATGAAGAACTGCGTCGTGACGAT  
AACTATCAGGGGCACAATCTGGAATTATTAGCCAGCTTAATAGAAAAGCATGGGTATGTAGAGGATGTGAAGAATTTTTTTG  
ATTTTTGTAA

4186.1 (SEQ. ID. NO. 328)

ATGAATGTAATCAGATTGTACGGATTATTCCTACTTTAAAAGCTAATAATAGAAAAATTAATGAAACATTTTATATTGAAAC  
CCTTGAATGAAGGCCTTGTAGAAGATCGGCCCTTCTGTCACTAGGTGACCAACGGGCTTGAAAAAGCTGGTTTTAGAA  
GAAGCTCCAGTATCGTACTCGTAAGGTAGAGGGAAGAAAAAACTAGCTAGATTGATTGTCAAGGTGGAATTCCTTA  
GAAATTGAAGGAATCTTATCTAAAACAGATTGATTATCGATTATATAAAGGTCAAAATGGCTACGCTTTTGAATTTTCTC  
ACCAGAAGATGATTTGATTTGATTATGCGGAAGATGACATAGCAAGTCTAGTAGAAGTAGGAGAAAAAGCCTGAATTTCAA  
ACAGATTTGGCATCAATTTCTTTAAGTAAATTTGAGATTTCTATGGAATTACATCTCCCACTGATATCGAAAGTTTCTTGA  
ATCATCTGAAATTTGGGGCATCCCTTGATTTTATCCAGCTCAGGGGCAGGATTTGACTGTGGACAATACGGTTACCTGGGACT  
TATCTATGCTCAAGTTCTTGGTCAATGAATTAGACATAGCAAGTCTTCGCCAGAAGTTTGAGTCTACTGAATTTTTATTCCTA  
AGTCTGAAAAATCTTCTTGGTAAAGATAGAAATAATGTTGAATTGTGTTTGAAGAAGTATGA

4186.2 (SEQ. ID. NO. 329)

ATGAAGTGGACCAAGATTATTAAAAAAATAGAAGAACAAATCGAGGCAGGGATTTATCCCGGAGCCTCTTTTGGCTATTTTA  
AGGACAATCAATGGACAGAGTTCTATTTAGCCAGAGTAGCCAGAGCATGGCTTGCAGACTGAGGCAGGACTAGTTTATGA  
CCTAGCTAGTGTACAGCAAGGTTGTTGGGGTTGGCACAGTTTGTACCTTCTTGTGGGAAATAGGTCAATTAGATATTGATAGAC  
TGGTAATAGATTTTTTACCTGAGAGTGATTATCCAGACATCACTATTCCGCCAGCTTGTACTCATGCAACAGACCTTGATCCT  
TTTATTCTAATCGTGATCTTTTAAACAGCCCCTGAATTAAGGAAGCGATGTTTCATCTCAACAGACGAAGTCAGCCAGCCTT



TCTTTATTCGGATGTCCATTTTTTGCTGTTGGGCTTTATTTTGAAAGAATTTTAATCAAGATTGGATGTGATTTTAAAGGA  
TCAAGTCTGGAAACCTTGGGGAATGACGGAACTAAGTTTGGGCCAGTTGAGCTTGCTGTTCCAACAGTTAGAGGTGTAGAG  
GCAGGCATAGTGATGATCCCAAGGCTCGTCTCCTGGGTAGACATGCTGGGAGTGCTGGTTTATTTTCGACTATAAAGGATTT  
ACAAATCTTTTTAGAACACTATTTAGCAGATGATTTTGCAAGAGACTTAAATCAAAATTTTTCTCCTTTGGATGACAAGGAAC  
GTTCTTTAGCATGGAATTTGGAAGGAGATTGGCTAGACCATACGGGCTATACAGGTACCTTTATCATGTGGAATCGTCAGAA  
GCAAGAAGCCACTATTTCTATCGAATCGTACCTATGAAAAGGACGAGAGAGCTCAATGGATATTAGACCGCAATCAAGTG  
ATGAACCTTGATTGCGAAAGAAGAGTAA

4187.2 (SEQ. ID. NO. 330)

ATGATGAAGAAGACTTATAATCATATTTTGGTCTGGGGAGTCATTTCTATAGCATTGTCATTGCTGTTTTGCTTTACTCCT  
CAAGAACAATCTACCGTGGGAGTGGGAACCTCCAGGTATTCAGCATCTTGGACGCCTGGTTTTCTTTTGACTCCTTTCAATTC  
TCTCTGAAACCTGGGCGAAGTGAGTGACATTGGACAATTATGTTGGATTTTTTACAAAATATCCCAATGTCTCTCTGTTTTT  
TCTCTGATTTTCCAACCTCCTTTATCTATTTCCAAATTTGCGGAAAAACAAAAAAGGTCCTTCTTTTTAGTTTTCTGTGAGTCTT  
GGAATCGAGTGACGCAATTAATCTTGGACTTTTTCTTTGATTTCATTCGCGTCTTTGAGATTGATGATTTGTGGACCAACACT  
TTGGGTGGCTATCTGGCTTGGCTCCTTTATAAACGATTACATAAAAAACAAGGTAAGGAATTAA

4188.1 (SEQ. ID. NO. 331)

ATGAAGATTCTCTCTTAACCTTTGCAAGGCATAAATTTGTTTATGTCTTGCTTACTTTGCTTTTTCTTGCTTTGGTTTATCGTG  
ATGTTTGTAGTACTTATTTCTTTTGTATTTATGCGCCCGATCTAGCTAAATTCGATGGACAAGCAATTAATAATGACTTAT  
TAAATCAGCATTAGATTTCGTATTTCTCCAGTCAATCTAGGTTTTATCAATCATTTATTATTCCAATCATITGTTTTGCT  
AGGTTTTCAATATATTGAGCTGAAAAATAAAGTTTTACGATTGAGTATTGGAAGAGAAGTGAGTTATCAAGGGTAAAAAGA  
AAGTTGACTTTGCAAGTTGCAAGTATCCCTTGTTGATATTTAGTGACTGTGCTGATAATTGCAATTATAACCTATTTCTTT  
GGGACTTTTTCTCCTCTTGGATGGAATTTCTATTTCTGATGGAAAGTGTTTACAAAGACTCCTAGATGGAGAGATAAAAAAG  
CTATTTGTTCTTTACTTGTCTCTAATCCGATTTTTCATCAATGCAATCTATTTTTTACAAATAGTTGATTATGTGGGGAAT  
GTGACTCGTTCCGCAATCACCTATTTGATGTTTCTTTGGCTTGGTTCTATGCTGCTTTATAGTGCCTTGCTTACTATATGGTTC  
CTATGACGAGTTTGATGCAAGCTAGCTATGGGGATGTAAGTTTGATGAAACTCTTTACTCCTTATATCCTTTATATTGTCCCTT  
ACATGGTGCTTGAAAAATATGAAGATAATGTTTAA

4188.2 (SEQ. ID. NO. 332)

ATGAAGATAATGTTTAAAGAATTTTAAACAATATTTTGCTAAATAGAAAGATTGTTTTACTACTTCGTATAGTTCTGATGATGAT  
TTTGATAAACCATCTATTGTCAACAGCGGTTCAAAAGCAGGATGCTGTTATCTTTTTCAAGAGAGAATTGATTTCAATTTTTTC  
CTATAATGACTATTCTGAAGCGAATTTAGAAATCCCCAACTATTGTTAAACCTTTCCGCTTTTCATGGTAGGATGGCTCTCTGT  
CATTTTACTTGAAAGTGATTGGCAGACCATTACCATCACTTGATTGCTATCAATCAAGCTCCTTTTTCGATTATACAAGGA  
AACGATTGGTTGTCATTTCTAAATTTTTTACTCAAGATTTGTTTCTGTTTCTGGTTTACTTCTCTAGGAATTCATTTCAA  
AACAGTCGCACTTTTCTTTTTACTTGCTCAGTTAATGATGTTGTACTTACTACTGTCTTATCTGATAGCACTGATTAGTGCGGG  
CGCTGGTTTTCTCTTTTTCTCTATTTTTTAGCATTGTGGGACAAGAATGGATGATGGATCATATTGTAACAGTGATTTAGT  
ACTCTAAGTTTATTAGTTATGTTGATTGTTAGTCGCTTGGAAAGAGAAATTTAAGAAAGGATAA

4188.5 (SEQ. ID. NO. 333)

ATGGGCAAAGGAGAGATGGGCAAAGGAGTTATTGGCTTGGAGTTCGACTCAGAAGTATTGGTCAACAAGGCTCCAACCCCTTC  
AATTGGCAAATGGTAAACAGCGACTTTCCTAACCCAGTATGATAGCAAGACCTTGTGTTTGCAGTAGATAAGGAAGATAT  
CGGACAGGAAATTTATGGTATAGCTAAAGGAAGCATCGAAAGTATGCATAATCTTCTGTAAATCTAGCAGGTGCCAGAGTT  
CCTGGCGGAGTAAATGGTAGCAAAAGCAGCGGTGCATGAAGTCCAGAATTTACAGGGGGAGTTAATGGTACAGAGCCAGCT  
GTTTCATGAAATCGCAGAGTATAAGGGATCTGATTGCTTGTAACTCTTACTACAAAAAAGATTACTTACAAAGCTCCTCT  
TGCTCAGCAGGCACCTTCTGAAACAGGAACAAGGAGAGTGACCTCCTACTAGCTTCACTAGGACTAACAGCTTTCTCTCTGGT  
CTGTTTACGCTAGGGAAGAGAGAGAACAATAA

4188.10 (SEQ. ID. NO. 334)

ATGTTTAAAGTTTTACAAAAAGTTGGAAAAGCTTTTATGTTACCTATAGCTATACTTCTGTCAGCAGGTCTACTTTTGGGGAT  
TGGTGGTGCACITTTCAAAACCAACACGATAGCAACTTATCCAATACTAGACAATAGTATTTTCAATCAATATTCCAAGTAA  
TGAGCTCTGCAGGAGAGGTTGTATTAGTAATTTGTCCTACTTCTCTGTGTTGGGATTATGTAATTGGCTAGGAAACGAGAT  
AAAGGAACCGCTCGCTTAGCAGGAGTAACGTGTTACTTGTATGACTGCAACGATCAAAAGCTTTGGTAAAACTTTTTATGG  
CAGAAGGATCTGCAATTGATACTGGAGTTATTGGAGCATTAGTTGTCGGAATAGTTGCCGTATATTGACACAACCGATATAA  
CAATATTCAATTACCTTCCGCTTTAGGATTCTTTGGAGGTTACAGCTTCGTTCTTCTATCTTCTATCTTGATT  
GGCTTTGCTTCTTGTATTATTGGCCACCTTTCCAACAACCTTCTGTTTCTACAGGTGGATATATTCTCAGGCGGGTCCAATT  
GGAACCTTTCTATATGGATTTTTAAATGAGACTTTCTGGAGCAGTAGGCTTACATCATATAATTTACCCTATGTTTTGGTATACT  
GAACCTGGTGGTGTGAAACTGTTGCAGGACAAACAGTGGTGGAGCTCAAAAAATATTTTTGCTCAATTAGCCGATTGGC  
CCATTCTGGATTATTTACAGAAGGAACAAGTTTTTGCAGGTCGTTTCTCAACAATGATGTTCCGTTTACCGGCTGCCTGTTT  
AGCGATGTACCATAGTTCCTAAAAATCGTCGTAACCAATACGCGGGTTGTTTTTGGAGTTGCTTTAACATCTTTTATTAC  
CGGTATTACAGAACCAATTGAATTTATGTTTCTATTCTGTCAGTCCGGTTCTATATGTTGTTACGCACTTCTTGATGGTGTAG  
CTTCTTTATTGACAGCTCTTAAATATTTCAATAGGAAACACATTTTTCAGGAGGTGTAATCGATTTCACTTTATTTGGAATTTT  
GCAGGGGAACGCTAAGACGAATTGGGTTCTTCAGATTCCATTTGGACTTATTGGAGTGTTTTGATTTATATTATTTTAGATG  
GTTCTATTACTCAATTCAACGTTCTAACGCCAGGGCGAGGAGAAGAAGTAGATTCTAAAGAAATTTCTGAATCCGCAGATTCA  
ACTTCAAATACTGCAGATTATTTAAACAGGATAGCTACAAATTATCAGAGCCTTGGGTGGATCAAAATAATATAGAAGATG  
TAGATGCTTGTGTGACACGTTTACGTGTAGCTGTAAAAAGAAGTTAATCAAGTTGATAAAGCACTTTTAAAAACAAATTTGGTGC  
AGTTGATGCTTAGAAGTGAAGGGTGGCATTCAAGCAATCTATGGAGCAAAAGCAATCTTATATAAAAAATAGTATTAATGAA  
ATTTTAGGTGTAGATGATTAA

4188.11 (SEQ. ID. NO. 335)

ATGAAATTTAGAAAATAGCTTGTACAGTACTTGGCGGTGCTGCGGTTCTTGGTCTTGCTGCTTGTGGCAATTCTGGCGGAAG  
TAAAGATGCTGCCAAATCAGGTGGTGACGGTGCCAAAACAGAAATCACTTGGTGGGCATTCCCAAGTATTTACCCAAGAAAAA  
ACTGGTGACGGTGTGGAACCTTATGAAAAATCAATCATCGAAGCGTTTGAAGAAAGCAACCCAGATATAAAGTGAAATTG

GAAACCATCGACTTCAAGTCAGGTCTGAAAAAATCACAAACAGCCATCGAAGCAGGAACAGCTCCAGACGTACTCTTTGATG  
CACCAGGACGTATCATCCAATACGGTAAAAACGGTAAATTTGGCTGAGTTGAATGACCTCTTCACAGATGAATTTGTTAAAGA  
TGTCACCAATGAAAACATCGTACAAGCAAGTAAAGCTGGAGACAAGGCTTATATGTATCCGATTAGTTCTGCCCATTTCTAC  
ATGGCAATGAACAAAGAAAATGTTAGAAGATGCTGGAGTAGCAAACTTGTAAAAGAAGGTTGGACCACTGATGATTTTGAA  
AAAGTATTGAAAAGCACTTAAAGACAAGGTTACACACAGGTTTCATTGTTCAGTTCTGGTCAAGGGGAGACCAAGGAACA  
CGTGCCTTTATCTCTAACCTTTATAGCGGTTCTGTAACAGATGAAAAAGTTAGCAATATACAACCTGATGATCCTAAATTCGT  
CAAAGGCTTTGAAAAAGCACTAGCTGGATTAAAGACAATTTGATCAATAATGGTTCACAATTTGACGGTGGGGCAGATATC  
CAAACTTTTGCCACGGTCAACATCTTACACAATCCTTTGGGCCACAGCTCAAAATGGTATCCAAAGCTAAACTTTTGAAG  
CAAGTAAGGTAGAAGTGGTAGAAGTACCATTCCCATCAGACGAAGGTAAGCCAGCTCTTGAGTACCTTGTAAACGGGTTTGC  
AGTATTCAACAATAAAGACGACAAGAAAGTCGCTGCATCTAAGAAATTCATCCAGTTTATCGCAGATGACAAGGAGTGGGG  
ACCTAAAGACGTAGTTCGTACAGGTGCTTTCCAGTCCGTACTTCAATTTGGAAAACTTTATGAAGACAAACGCATGGAAAA  
ATCAGCGGCTGGACTCAATACTACTCACCATACTACAACACTATTGATGGATTGTGTAAGTGAAGAACACTTTGGTCCCAAT  
GTTGCAATCTGTATCAAAATGGTGACGAAAAACCAGCAGATGCTTTGAAAGCCTTCACTGAAAAAGCGAACGAAACAATGAA  
AAAAGCTATGAAACAATAG

4188.12 (SEQ. ID. NO. 336)

ATGCAATCTACAGAAAAAAACCATTAAACAGCCTTTACTGTTATTTCAACAATCATTTTGCTCTTGTGACTGTGCTGTTTCATC  
TTTCCATTCTACTGGATTTTGACAGGGGCATTCAAATCACAACCTGATACAATTGTTATTCCTCCTCAGTGGTTCCCTAAAAAT  
CCAACCATGGAAGAACTTCCAACAACCTCATGGTGCAGAACCCCTGCCATTGCAATGGATGTGGAACCTAGTATTATCTCAATGGT  
AACCATGTTCTTAGTTTGTGCAACCTCATCTCTAGCAGGTTATGTATTGGCTAAAAAACGTTTCTATGGTCAACGCATTCTATT  
TGCTATCTTTATCGCTGCTATGGCGCTTCCAAAACAAGTTGTCCTTGTACCATTGGTACGTATCGTCAACTTCATGGGAATCCA  
TGATACTCTCTGGGCAGTTATCTTGCTTTGATTGGATGGCCATTCGGTGTCTTCTCATGAAACAGTTTCAGTGAAAAATATCCC  
TACAGAGTTGCTTGAATCAGTCAAAATCGACGGTTGTGGTGAGATTGCTACCTTCTGGAGTGTAGCCTTCCCGATTGTGAAG  
CAGGGTTTGACGCCCTTGCAATCTTTACCTTCATCAATACTTGAATGACTACTTCATGCAATTGGTAATGTTGACTTCACGTA  
ACAATTTGACCATCTCACTTGGGGTGGCACCATGCAGGCTGAAATGGCAACCAACTATGGTTTGATTATGGCAGGAGCTGC  
CCTTGCTGCTGTCCAATCGTCACAGTCTTCTAGTCTTCAAAAATCCTTCACACAGGGTATTACTATGGGAGCGGTCAAAG  
GATAA

4191.1 (SEQ. ID. NO. 337)

ATGAAAAAACTTTTTCTTACTGGTGTAGGCTTGTTCCTTCTCCACTCTCTGTTTTTGCCATTGATTTCAGATAAACT  
CTTATCAAGGGGATTTGTATATTATGCAGACAATACGGCAGAGTTTAGACAGAAGATAGTTTACCAGTTTGAGGAGGACTT  
TAAGGGCCAAATCGTGGGACTTGGACGTGCTGGTAAGATGCCTAGCGGGTTTGACATTGACCCCTCATCCAAAGATTCAGGCC  
GCGAAAAACGGTGCAGAACTAGCAGATGTGACTAGCGAAGTAACGAAGAAGCGGATGGTTATATCTGTGAGAGTCTATAAT  
CCAGGTCAGGAGGGCAGACATAGTTGAAGTTGACCTCGCTTGGAACTTAAAAAATTTACTTTTCTTTATGATGATATCGCTGA  
ATTAATTTGGCAACCTCTGACAGATAGTTTCAAGTCTATTGAAAAGTTGAATTTCAATGTAAGGGGAGACAAGGGGGCTGAA  
AACTCTTTTTCCATACAGGGAACTTTTTAGAGAGGGGAACGATTGAAAAGAGTAACCTTGATTATACTATCCGTTTAGACA  
ATCTTCCGGCTAAGCGTGGAGTTGAGTTGCATGCCTATTGGCCCTCGGACCGATTGCTAGCGCTAGGGATCAGGGATTGAA  
AGGGAATCGTTTGAAGAGTTTAAAGATAGAAGACTCGATTGTTAGAGAAAAAGATCAGAGTAAACAACCTCGTTACTTG  
GGTCTCTCCCTTCGATCCTTTCCATCTCCTTGTATTGAGTGTCTGTTCTATTTTATTATAGAAGAAAGACCCTCTTCAGTC  
AAATATGCCAAAAATCATCTGTCTCTATGAACCACCAATGGAATTAGAGCCTATGGTTTTATCAGAAGCAGTCTACTCGACCTC  
TTGGAGGAAGTGTAGTCCCTTGGTCAAGGGAGCTGGAAAAATTCACCTTTGATCAACTTATTCAGGTACCTTGCTAGATGTGA  
TAGACCGTGGGAATGTCTCTATCATTTCAAGAGGAGATGCAGTTGGTTGAGGCTAGTAAAAGAAAGTGGTTTGTCAAGCTT  
TGAGAAAGACTGCCTAAATCTAGCTTTTTCAAGGTAAAAAGAAAGAACTCTTTCCAATTTGTTTGGCGATTACAAGGTATCTG  
ATAGCTTTTATCGTAGAGCCAAAGTTTCTGATGAAAAACGGATTCAAGCAAGAGGGCTTCAACTCAAACTCTTTTGAAG  
GGTATTGAACCAGATGCAAGAAGGAGTGAGAAAAACGAGTTTCTTCTGGGGCTCCCAGATTATTATCGTCTTTAACTGGT  
GGGGAAGAGGCTTGCAAGTGGGTATGGGTGCCTTGACTATCTGCCCCCTATTATCGGATTGGTTTGTCTTGTACAGTTT  
AGACGTTTCATGGCTATCTTTACCTCCCTTTGCCAATCTTGGTTTCTAGGGTTAGTTTGTCTGTTTCTATTATTGGAAGCTT  
CGACTAGATAAATCGTGATGGTGTCTAAATGAAGCGGAGCTGAGGTCTACTATCTCTGGACCACTTTTGAATAATGTTGC  
GTGAGATTGCACGATTGGATCAGGCTGAAGTGAAGTATGTGGTCTGGAATCGCCTCTTGGTCTATGCGACCTTATTGGC  
TATGCGGACAAGGTTAGTCAATTTGATGAAGGTTTCATCAGATTCAAGTGGAAAAATCCAGATACAATCTCTATGTAGCTTATGG  
CTGGCAGTACGTTTTATCATTCAACAGCAAAATGAGCCATTAGCTAGTGTGCAAAATACAGCAAGCACCTACTCTGTAT  
CTTCTGGAAGTGAAGTTCTGGTGGTGGCTTCTCTGGAGGCGGAGGTGGCGGCAGTATCGGTGCCTTTTAA

4191.2 (SEQ. ID. NO. 338)

ATGAAAAAAGTAAGAAAGATATTTCAAGGACGTTGCAGGACTGTGCTGTATATCTCAGTTGACAGCTTTTTCTTCGATAG  
TTGCTTTAGCAGAAACGGCTGAAACCAGTCCAGCGATAGGAAAAAGTAGTGATTAAGGAGACAGGCGAAGGAGGAGCGCTTC  
TAGGAGATGCGCGTCTTTGAGTTGAAAAACAATACGGATGGCACAACCTGTTTCGCAAGGACAGAGGGCGAAACAGGAGAAG  
CGATATTTTCAAAACATAAAACCTGGGACATACACCTTGACAGAACCCCAACCTCCAGTTGGTTATAAACCCCTTACTAAACA  
ATGGACTGTTGAAGTTGAGAAGATGGTCCGACGACTGTCCAAGGTGAACAGGTAGAAAAATCGAGAAGAGGCTCTATCTGA  
CCAGTATCCACAACAGGGACTTATCCAGATGTTCAACACCTTATCAGATTATTAAGGTAGATGGTTCGGAAAAAACCGGA  
CAGCACAAGGCGTTGAATCCGAATCCATATGAACGTGTGATTCCAGAAGGTACACTTCAAAGAGAATTATCAAGTGAATA  
ATTTGGATGATAACCAATATGGAATCGAATTGACGGTTAGTGGGAAAAACAGTGTATGAACAAAAAGATAAGTCTGTGCCGCT  
GGATGTCTGTTATCTTGTCTGATAACTCAAATAGTATGAGTAACATTCGAAACAAGAATGCTCGACGTGCGGAAAGAGCTGGT  
GAGGCGACAGCTTCTTATGATAAAATACATCTGATTCAAAAAATAGGGTAGCGCTTGTGACTTATGCTTCCACTATCTT  
TGATGGGACCGAGTTTACAGTAGAAAAAGGGGTAGCAGATAGAAAAACGGAAGCGATTGAATGATTCTCTTTTGGAAATAT  
GATCAGACGAGTTTTACAACCAATACCAAGATTATAGTTATTTAAAGCTGACTAATGATAAGATGACATTGTAGAATTAA  
AAAATAAGGTACCTACCGAGGCAGAAAGACCATGATGGAAATAGATTGATGTACCAATTCGGTGCCACTTTTACTCAGAAAGC  
TTTGATGAAGGCAGATGAGATTTTGACACAACAAGCGAGACAAAATAGTCAAAAAGTCATTTCCATATTACGGATGGTGTCT  
CCAATATGTCTGATCCGATTAATTTTAAATCATGCTACGTTTGTCTCCATCATATAAAATCAACTAAATGCAATTTTGAATAA  
TCTCCTAATAAAGATGGAATACTATTAAGTGATTTTATTACGCAAGCAACTAGTGGAGAACATACAATTGTACGCGGAGATG  
GGCAAGGTTACAGATGTTTACAGATAAGACAGTTTATGAAAAAGGTGCTCCTGCAGCTTTCCAGTTAAACCTGAAAAATA  
TTCTGAAATGAAGGCGGCTGGTTATGCACTTATAGCGGATCCAATTAATGGTGGATATATTGGCTTAATGGAGAGAGACT  
ATTCTGGCTTATCCGTTTAAATCTAATCTAGTCAAAAATTAACCATCATGGTGACCCTACAAGATGGTACTATAACGGGAATAT  
TGCTCCTGATGGGTATGATGCTTTACGGTAGGTATTGGTATTAACGGAGATCCTGGTACGGATGAAGCAACGGCTACTAGTT  
TTATGCAAAAGTATTTCTAGTAAACCTGAAAACTATACCAATGTTACTGACACGACAAAAATATTGGAACAGTTGAATCGTTA

TTTCCACACCATCGTAACGTAAAAGAAATCAATTGAGAATGGTACGATTACAGATCCGATGGGTGAGTTAATTGATTTGCAA  
TTGGGCACAGATGGAAGATTTGATCCAGCAGATTACACTTTAACTGCAAACGATGGTAGTCGCTTGGAGAATGGACAAGCTG  
TAGGTGGTCCACAAAATGATGGTGGTTTGTAAAAAATGCAAAAGTGTCTATGATACGACTGAGAAAAAGGATTTCGTGTAAC  
AGGTCTGTACCTTGGAAACGGATGAAAAAGTTACGTTGACCTACAATGTTTGGTTGAATGATGAGTTTGAAGCAATAAATTTT  
ATGATACCAATTGGTCGAACAACCTTACATCCTAAGGAAGTAGAACAGAACACAGTGCAGGACTTCCCGATTCTTAAGATTTCG  
TGATGTGCGGAAGTATCCAGAAATCACAATTTCAAAAGAGAAAAAACTTGGTGACATTGAGTTTATTAAGGTCAATAAAAAAT  
GATAAAAAACCACTGAGAGGTGCGGTCTTTAGTCTTCAAAAACAACATCCGGATTATCCAGATATTTATGGAGCTATGTATC  
AAAATGGCACTTATCAAAATGTGAGAACAGGTGAAGTGGTAAGTTGACCTTTAAAAATCTGTCAGATGGGAATATCGATT  
ATTTGAAAAATTCGAACCACTGGTTATAAACCCGTTCAAAAATAAGCCTATCGTTGCCTTCCAAATAGTAAATGGAGAAGTC  
AGAGATGTGACTTCAATCGTTCCACAAGATATACCAGCGGTTACGAGTTTACGAATGATAAGCACTATATTACCAATGAAC  
CTATTCCTCCAAAGAGAGAATATCCTCGAAGTGGTGGTATCGGAATGTTGCCATTCTATCTGATAGGTTGCATGATGATGGGA  
GGAGTTCTATTATACACACGGAAACATCCGTAA

4191.3 (SEQ. ID. NO. 339)

ATGAAATCAATCAACAAATTTTAAACAATGCTTGTCTGCTTATTACTGACAGCGAGTAGCCTGTTTTCAGCTGCAACAGTTT  
TGCGGCTGGGACGACAACAACATCTGTTACCGTTTCATAAACTATTGGCAACAGATGGGGATATGGATAAAATTGCAATAG  
TTAGAAACAGGTAACATATGCTGGTAATAAAGTGGGTGTTCTACCTGCAAAATGCAAAAAGAAATTGCCGATTGTTGCTGTT  
GGACAAATACTAATAATGAAATTATTGATGAAAAATGGCCAACTCTAGGAGTGAATATTGATCCACAAACATTTAACTCTC  
AGGGGCAATGCCGGCAACTGCAATGAAAAAATTAACAGAAAGCTGAAGGAGCTAAATTTAACACGGCAAAATTTACCAGCTGC  
TAAGTATAAAATTTATGAAATTCACAGTTTATCAACTTATGTCGGTGAAGATGGAGCAACCTTAACAGGTTCTAAAGCAGTTT  
CAATTGAAATTTGAATTTACCATTTGAACGATGTTGAGTGGCATTGTTGATATCCAAAAAATACAGAAAGCAAGCCAAAAATTGA  
TAAAGATTTCAAAGGTAAAGCAAAATCCAGATACACCAGTGTAGATAAAGATACACCTGTGAACCACCAAGTTGGAGATGTT  
GTAGAGTACGAAATTTGTTACAAAAATTCAGCACTTGTCTAAATTAAGCAACAGCAAACTGGAGCGATAGAATGACTGAAGGTT  
TGGCATTCAACAAAGGTACAGTGAAGTAACTGTTGATGATGTGCACTTGAAGCAGGTGATTATGCTCTAACAGAAGTAGC  
AACTGGTTTTGATTTGAAATTAACAGATGCTGGTTTAGCTAAAGTGAATGACCAAAACGCTGAAAAAACTGTGAAATCACT  
TATTCGGCAACATTGAATGACAAAGCAATTTGTAGAAGTACCAGAATCTAATGATGTAACATTTAACTATGGTAATAATCCAG  
ATCACGGGAATATCTCAAAGCCGAATAAGCCAAATGAAAAACGGCGATTGACATTGACCAAGACATGGGTTGATGCTACAG  
GTGCACCAATTCGGCTGGAGCTGAAGCAACGTTTCGATTGTTGTTAATGCTCAGACTGGTAAAGTTGTACAAACTGTAACTTTG  
ACAACAGACAAAAATACAGTTACTGTTAACGGATTGGATAAAAAATACAGAATATAAATTCGTTGAACGTAGTATAAAAGGG  
TATTCAGCAGATTATCAAGAAATCACTACAGCTGGAGAAATGCTGTCAAGAACTGGAAAGACGAAAAATCCAAACCACT  
GATCCAAACAGAGCCAAAAGTTGTTACATATGGTAAAAAGTTTGCAGAAAGTTAATGATAAAGATAATCGTTAGCTGGGGCAG  
AATTTGTAATTTGCAAAATGCTGATAATGCTGGTCAATATTTAGCAGGTAAAGCAGATAAAGTGAAGTCAAGAAGAGAAGCAGTT  
GGTTGTACAAACAAAGGATGCTTTAGATAGAGCAGTTGCTGCTTAAACGCTCTTACTGCACAACAACAACTCAGCAAGAA  
AAAGAGAAAGTTGACAAAGCTCAAGCTGCTTATAATGCTGCTGTGATTGCTGCCAACAATGCATTTGAATGGGTGGCAGATA  
AGGACAATGAAAAATGTTGTGAAATTAAGTTTCTGATGGCACAAGTCTCTATACTGATAAAAAATGAGAGATTTTGTGACAAAT  
TTAGAAGAAACAAAAACAGCCTGCTGGTTATGCATTACTAAGTACGCGTCAGAAATTTGAAGTCACTGCAACTTCTTATTTCAGC  
GACTGGACAAGGCATTGAGTATACTGCTGGTTACGGTAAAGATGACGCTACAAAAGTAGTCAACAAAAAAATCACTATCCC  
ACAAACGGGTGGTATTTGGTACAATTATCTTTGCTGTAGCGGGGGCTGCGATTATGGGTATTGCAGTGTACGCATATGTTAA  
AACAAACAGATGAGGATCAACTTGCTTAA

4191.4 (SEQ. ID. NO. 340)

ATGACAATGCAGAAAAATGCAGAAAAATGATTAGTCGTATCTTCTTTGTTATGGCTCTGTGTTTTCTCTTGTATGGGGTGCA  
TGCAGTCCAAGCGCAAGAAGATCACACGTTGGTCTTGCAATTGGAGAATATCAGGAGGTGGTTAGTCAATTGCCATCTCGT  
GATGGTCATCGGTTGCAAGTATGGAAGTTGGATGATTCTGATTCCTATGATGATCGGGTGCAAAATTTGAAGACTTGCATT  
GTGGGATGAGAATAAACTTTCTTTTCAAAAAGACTTCGTTGAGATGACCTTCTTGAAGATCAGATGAGATGATCTCAT  
TTCCAAATGGCTTTTACTATGTTGCTCTATTATCCAGCGGATCGGGTTTCTTATCCAGCTGAATTTCTTTTGAATGACAG  
ATCAAACGCTAGAGCCTTTGGTCATTGTAGCGAAAAAACAGATACAATGACAACAAAGGTGAAGCTGATAAAGGTGGATC  
AAGACCACAATCGCTTGGAGGGTGTGCGCTTTAAATTTGGTATCAGTAGCAAGAGATGTTTCTGAAAAAGAGGTTCCCTTGT  
TGGAGAATACCGTTTCTGTTCTGTTCAAGTAAAGGAGGTCCTATCTGATAAAAAATGAGAGATTTTGTGACAAAT  
CTTCTCTTGGGAATATCGTTTCAAGGAGGTGGAGCCACTGGCAGGCTATGCTGTTACGACGCTGGATACGGATGTCCAGCT  
GGTAGATCATCAGCTGGTGACGATTACGGTTGTCAATCAGAAATACCACGTGGCAATGTTGACTTTATGAAGGTGGATGGT  
CGGACCAATACCTCTCTTCAAGGGGCAATGTTCAAAAGTCATGAAGAAGAAAGCGGACACTATACTCTGTTCTTCAAAATG  
GTAAGGAAGTAGTTGTAACATCAGGGAAAGATGGTCTGTTCCGAGTGGAAAGGTCTAGAGTATGGACATACTATTTATGGGA  
GCTCCAAGCTCCAAGTGTATGTTCAATTAACATCGCCTGTTTCTTTACAATCGGGAAAGATACTCGTAAGGAAGTGGTAA  
CAGTGGTAAAAATAACAAGCGACCAAGGATTGATGTGCCAGATACAGGGGAAGAAACCCCTTGATATCTTGTATGCTTGTG  
CCATTTTGTGTTTGGTAG

4191.5 (SEQ. ID. NO. 341)

ATGAGCCACATATCTTATCTATTTTCAAGTCTCTTGTGATGCTAGGACTTGTCAATGTTGCTCAAGCCGATGAATATTTA  
CGCATCGGTATGGAAGCAGCATATGCTCCCTTTAACTGGACCCAGGATGATGATAGCAACGGAGCTGTCAAAATCGATGGGA  
CCAATCAGTATGCCAACGGATACGATGTTCAAATCGCCAAGAAAAATCGCTAAGGACTTAGGTAAGAACCTTTGGTTGTTAA  
AACCAAGTGGGAAGGTCTAGTCCCTGCCCTTACTTCTGTAAGATTGACATGATTATCGCAGGTATGAGTCCAAGTGCAGAA  
CGCAACAAAGAAATGCTTTTTCGAGCAGTTACTATAGGCAACCAAGTTTGTCTGTCAAAAAAGATTCTGCTTACGCA  
GTGCTAAATCTTTGGATGACTTTAACGGTGCAAAAAATCACTTCTCAACAAGGGGTCTACCTTTATAACTTGATTGCACAAATC  
CCAGGTGCTAAAAAAGAAACAGCCATGGGAGACTTTCGCTCAAAATGCGACAAGCTCTTGAGGCTGGTGTCTTATGCTTATG  
TTTCTGAACGTCCAGAAGCACTGACTGCTGAAGCTGCGAAGCTTAAGTTCAAGATGATTCAAGTAGAACCTGGTTTCAAAAC  
TGGGGAAGAGATACAGCTATCGCTATCGGGCTTCGTAATAAATGACAACTCGTATTAGCAAAATCAATGCCATGTTGAAC  
ATTTCAAAAGATGACCAAGTTGCCCTTGATGGATCGTATGATCAAGGAACAACCTGCCGAAGCTACAACAAGTGAAGAGACTA  
GCAGATGTTCTTTAGCCAAGTTGCTAAAAATCTTTTGAAAACTGGCAACAACCTTTCGCTGGTGGTATCACTCTTTTAA  
TCTCTATCGTCGGAACCATATAGGTCTCAATTTAGGATTTGCCATTTGGTGTCTTCCGTAAGTGTCTCTGTAACAAACAAAG  
TCATTTACGGCCTACAAAACTAGTGGGCTGGGTTCTCAATGTCTACATTGAAATTTTCCGTGGTACGCCAATGATTGTTCAA  
TCGATGGTTATCTACTATGGAAGTGCCCAAGCTTTCCGGATCAACC

TTGACCGTACACTGGCTGCTATCTTCATCGTTTCAATCAATACCGGTGCTACATGACTGAAATCGTCCGTGGTGGTATCCTA  
GCAGTTGACAAGGGACAATTTGAAGCTGCGACTGCTCTTGGTATGACCCATAACCAGACCATGCGTAAGATTGTCCTACCTC  
AGGTAGTCCGTAACATCCTACCTGCAACTGGTAATGAATTTGTCATCAATATCAAAGATACATCTGTATTGAACGTTATCTCT  
GTTGTCGAACCTTTATTTCTCAGGAAATACCGTGGCAACACAAACCTATCAATACTTCCAGACATTTACAATCATCGCCGTGAT  
TTACTTTGTCCTCACCTTACCGTAACACGTAATCTTACGCTTTATCGAGCGCAGAATGGACATGGATACCTACACTACAGGTG  
CTAACCAATGCAACGGAGGATTGAAATAA

4191.6 (SEQ. ID. NO. 342)

ATGACACAAGCAATCCTTGAAATTAACACCTCAAAAAATCCTATGGACAAAACGAAGTGCTAAAAGACATTTCACTCACTG  
TCCACAAGGGAGAGGTATCTCTATCATCGGAAGCTCTGGAAGCGGAAAAATCGACCTTCTACGCTCCATTAACTACTTGA  
AACACCAACTGATGGACAAATCCTTTATCATGGACAAAACGTCCTCGAAAAAGGCTATGACCTCACGCAATACCGTGAAAAG  
TTGGGGATGGTTTTCCAATCCTTTAACCTCTTTGAAAAATCAATGTTCTTGAAAAACACAATCGTCTGCTCAGACAACTGTCT  
AAAACGCGAACGCACAGAAGCTGAAAAGATTGCCAAAGAAAACCTGGAAAAGGTCGGCATGGGAGAACGCTACTGGCAAG  
CCAAACCAAAACAACCTCTCAGGTGGTCAAAAACAACGTGTGCCATCGCTCGTCCCTCTCCATGAATCCGGACGCTATTCT  
CTTTGATGAACCAACATCAGCTCTCGATCCAGAAATGGTTGGAGAAGTCTCAAAATCATGCAGGACCTGGCTCAGGAAGGC  
TTGACCATGATTGCTGTAACCCATGAAATGGAATTTGCCCGTGATGTCTCTCACCGTGTATTCTTTATGGATAAGGGCGTGAT  
CGCTGAAGAAGGTAAACCAGAAGACCTCTTACCAATCTTAAAGAAGACCGAACAAGAGTTCTTCAACGCTATCTCAA  
ATAA

4192.3 (SEQ. ID. NO. 343)

ATGAAAAAGTATCAACTTCTATTCAAAATAAGTGCAGTCTTCTCTTACTTATTTTTCGTATTTAGTCTTTCTCAGCTGACGCTT  
ATCGTCCAAAACATTTGGCAATTTCTTCTCAGATAGGCAATTTATCTGGATTCAAAATATCTTGAGTTTACTTTTTATTGGA  
GTCATGATTGTGGTTCTTGTAAAGACAGGCCATGGTTATCTCTCCGATTTCCAAGAAAAAATGGCTTTGGTATTCTGATTTT  
GACAGTATTAGTGCTAGTGTCCAGATCTCTTTAACGTTTCAGACAGCTAAACATGTTCACTCAACTGCGGAAGGTTGGGCTG  
TATTGATTGGTTATAGTGGGCAACTTTGCAGAGCTAGGTATTATATAGCCCTGTTCTTTCTGGTTCCACTGATGGAAGAA  
TTGATTATAGAGGATTACTGCAACATGCTTCTTTAAGCATTCGCGATTGGTCTTGATTGCTTCTCTATTTTATTGTTG  
CTCTCCCTCATTTTTCAAGCCTGCTAGTCTGTTAGATATCTTCGTCTTTGCAACAGTTGGAATCATCTTTGCTGGTTTGACCC  
GCTATACCAAGAGCATTTATCCATCCTATGCGGTGCATGTGATCAATAATATTGTAGCGACCTTCCCGTTTTTGCTCACTTTTC  
TACATAGGTCTTGGGGTAA

4193.1 (SEQ. ID. NO. 344)

ATGAACAAGAAACAATGGCTAGGTCTTGGCCTAGTTGCAGTGGCAGCAGTTGGACTTGCTGCATGTGGTAACCGCTCTTCTC  
GTAACGCAGCTTCATCTCTGATGTGAAGACAAAAGCAGCAATCGTCACTGATACTGGTGGTGTGATGACAAATCATTCAA  
CCAATCAGCTTGGGAAGTTTGCAGGCTTGGGGTAAAGAACACAATCTTTCAAAAAGATAACGGTTTCACTTACTTCCAATCA  
ACAAGTGAAGCTGACTACGCTAACAACTTGCAACAAGCGGCTGGAAGTTACAACCTAATCTTCGGTGTGGTTTTGCCCTTA  
ATAATGCAGTTAAAGATGCAGCAAAAGAACACACTGACTTGAATATGTCTTGATTGATGATGTGATTAAAGACCAAAAGAA  
TGTTGCGAGCGTAACTTTTCGCTGATAATGAGTCAGGTTACCTGCAAGGTGGTGGTGCAGCAAAAACAACCTAAGACAAAACAA  
GTTGGTTTTGTAGGTGGTATCGAATCTGAAGTTATCTCTCGTTTTGAAGCAGGATTCAAGGCTGGTGTGCGTCAGTAGACCC  
ATCTATCAAAGTCCAAGTTGACTACGCTGGTTTATTTGGTATGCGGCTAAAGGTAAAACAATTCAGCCGCACAAATACGCA  
GCCGTTGCAGATATTGTTTACCAAGTAGCTGGTGGTACAGGTGCAAGGTCTTTGCAAGGCAAAAATCTCTCAACGAAAGCC  
GTCTGAAAAATGAAAAAGTTGGGTTATCGGTGTTGATCGTGACCAAGAAAGCAGAAGGTAAATACACTTCTAAAGATGGCAA  
AGAATCAAACCTTTGTTCTGTATCTACTTTGAAACAAGTTGGTACAACCTGTAAGAGATATTTCTAACAAGGCAGAAAGAGGA  
GAATTCCTGGCGGTCAAGTGATCGTTTACTCATTTGAAGGATAAAGGGGTTGACTTGGCAGTAACAAACCTTTCAGAAGAAG  
GTAAAAAAGCTGTCGAAGATGCAAAAGCTAAAATCCTTGATGGAAGCGTAAAGT  
TCCTGAAAAATAA

4193.3 (SEQ. ID. NO. 345)

ATGTCTAAAAAATTACAACAAATTTCCGTTCCCTTGATTTCTGTATTCTAGGAATTTTACTCGGAGCCATTGTCATGTGGATC  
TTCGGTTATGATGCTATTGGGGCTACGAAGAAATGTTCTATACAGCCTTTGGCAGTCTGCGTGGGATTGGAGAAATCTTCCG  
TGCTATGGGTCTCTGGTCTTGATTGGTCTTGGTTTTGCCGTTGCCAGTTCGAGCTGGTTTCTTTAACGTCGGACTTCTGGTCA  
GGCTTTGGCAGCTTGGATTCTCAGTGGTTGGTTTTGCCCTGTCGATCCAGATATGCCCTGCTCCCTGATGATTCTAGCAAACTG  
TCGTGATTGCCCTTGATTGCTGGTGGGATTGTGCGAGCGATTCCAGGTATTTCTAGGGCCTATCTAGGGACGTCAGAGGTTATT  
GTAACCATCATGATGAACATATTGTCTTGATGTAGGGAATGCCTTTATCCATGCTTCCCTAAAGACTTTCATGCAAAAGTAC  
AGATTCGACCATTCGTGTTGGGGCTAATGCAACCTATCAGACACCTTGGTTGGCTGAGTTGACTGGTAACCTACGGATGAAT  
ATTGGTATTTTCTTGCCATCATTTGCCGTTGCAGTTATTTGGTTTCATGCTCAAGAAAAACAACCTTGGTTTTGAAATCCGTGCA  
GTTGGTCTTAATCCACATGCTTCAGAATAAGCTGGTATTTCTGCCAAGCGGACTATTATCTATCTATGATTATTCAGGTGCC  
TTGGCAGGTCTTGGTGGAGCTGTTGAAGGTTTGGGAACCTTCCGAACGCTCTATGTTCAAGGTTGCTCATTAGCTATCGGATT  
TAACGGAATGGCGGTTAGTTTGGCTTGGCGGCAACTCAACAAATGGTATACTCTTTGACGCTTCCCTATTGGCGTTTCCAAGT  
TGGGGCTCCTGGTATGAATGCGGCGCAGGTACCATCTGAGCTTGTGAGCATTGTAACAGCGTCTATTATCTTCTTTGTCAGTG  
TTCATTACCTTATCGAACGCTTTGTCAAACCGAAAAACAAGTTAAAGGAGGTAAAGTAA

4194.1 (SEQ. ID. NO. 346)

ATGGGAGTGAAAAAGAACTAAAGTTGACTAGTTTGCTAGGACTGTCTCTGTTAATCATGACAGCCTGTGCGACTAATGGGG  
TAACTAGCGATATTACAGCCGAATCGGCTGATTTTGGAGTAAATGGTTTACTTCTTTGCGGAAATCATTTCGCTTTTATCGT  
TTGATATTAGTATCGGAGTGGGGATTATTCTCTTTACGGTCTTGATTCTGACAGTCTCTTGGCAGTCTTTCAGGTGCAAAATGG  
TGGCTTCTAGGAAAAATGCAGGAAGCTCAGCCACGCATTAAGGCGCTTCGAGAACAATATCCAGGTGAGATATGGAAAGCA  
GAACCAAACTAGAGCAGGAAATGCGTAAAGTATTTAAAGAAATGGGTGTCAGACAGTCAGACTCTCTTTGGCCGATTTTGAT  
TCAGATGCCGTTATTTTGGCCCTGTTTCAAGCCCTATCAAGAGTTGACTTTTTAAAGACAGGTCACTTCTTATGGATTAACCT  
TGGTAGTGTGGATACAACCCCTGTTCTTCCGATTTTAGCAGCAGTATTACCTTTTTAAGTACTTGGTTGTCCAAACAAAGCTTT  
GTCTGAGCGAAATGGCGCTACGACTGCGATGATGTATGGGATTCAGTCTTGATTTTTATCTTTGAGTTTATGCGCCAGGTG  
GAGTCGCCCTATACTGGACAGTGTCTAATGCTTATCAAGTCTTGCAAAACCTATTTCTTGAATAATCCATTCAAGATTATCGCA  
GAGCGCGAGGCCGTAGTACAGGCACAAAAAGATTGGAAAAATAGAAAAAGAAAGCCAAAGAAAAAGGCTCAGAAAAACGAA  
ATAA

4194.4 (SEQ. ID. NO. 347)

ATGGTTATCGATCCATTGTGCTATCAACGAACTAGACTATTACTTAGTTTCACACTTCCACAGTGATCATATCGACCCATAACAC  
AGCTGCAGCAATTCTCAATAATCCTAAGTTAGAGCATGTTAAGTTTATCGGTCCTTACCAGTGTGGACGAATCTGGGAAGGAT  
GGGGTGTTCACAAAAGAACGTATCATCGTTGTTAAACCAGGTGACACTATCGAATTAAGATATGAAGATTCATGCAGTAGA  
ATCATTGTACCGTATCTTGGTAACTCTCCAGTGAACGGTGCTGATGAGACAGGCGGTGAACCTTGTGGCTTGGCTGTTA  
CAGATGAAGAAAATGGCTCAAAGGCTGTAACTATATCTTTGAAACACCAGGTGGAACCATCTATCATGGTGCAGATTCTCA  
CTTCTCAAACATTTTGTCAAAACATGGTAAAGACTTTAAATTTGATGTTGCTTGAATAACTATGGTGAATAATCCGGTAGGTA  
TCCAAGACAAAATGACATCTATCGACCTTCTCGTATGGCAGAAAATCTCGGTACCAAAGTCATTATCCAGTTCATCTATGAT  
ATCTGGTCTAACTTCACTGGCTTCTACTAATGAGATTCTAGAAGCTTTGGAAAATGCGAAAAGATCGCTTGAATACGATTTC  
TCCATTTATCTGGGAAGTTGGCGGTAAAGTACACTTATCCTCAAGATCAACACTTAGTAGAATACCATCATCCACGTGGTTTTG  
ATGATTGTTTTGAACAAGACTCTAACATTCAATTTAAAGCTTTGCTATAA

4196.2 (SEQ. ID. NO. 348)

ATGTTCCCTTTCAGGCTGGTTGTCTAGTTTTGCTAATACTTATATCCATGATTTACTGGGGGTTCTTTTCCAGATAGTCCATTTT  
TAAATGCCTTTGAAAGTGCTATTGCGGCTCCTTTGGTAGAAGAACCTTGAAATTATGTCACTTGTTTTGTTTTGGCTTTGA  
TTCCTGTGCGAAAATTAATATCTTTGTTTTACTTGGAAATGCTTCCGGTTTGGGATTCCAAATGATTAAGGATATTGGTTATA  
TTCGTACGGATTTGCCAGAGGGCTTTGACTTTACTATTTCGCGAATTTTAGAGCGTATCATCTCAGGAATTGCCCTCACTGG  
ACTTTTTCAGGTCTAGCTGTAGTAGGTGTTTACTTGCTTTACAGAGCCTATAAAGGACAGAAGGTTGGCAAGAAACAGGGCC  
TTATTTTCTAGGTTTAGCCTTGGGAAGTCACTTCTTGTTTAACTCTCCTTTTGTGGAGTTGGAAACAGAGTTGCCTTTAGCGA  
TTCAGTGGTTACGGCTATTGCTCTCTATGGTTTTATCATGCTTATTGCTTTGTGAGAAACACAATGAGTTGATGACCTAG

4197.1 (SEQ. ID. NO. 349)

ATGAAGGTGGAACACGTTGCGACGTCCTTTTCGAGGATGTGCGATTTTTTTTATTAGGATACTAATTATGGAGTTGCAAGAATT  
AGTGGAGCGCAGTTGGGCAATCCGACAAGCTTATCACGAACTGGAAGTTAAGCATCATGATTCCAAGTGGACGGTAGAAGA  
AGACCTCTTGGCTTTATCTAATGATATTGGAAAATTTCCAACGACTGGTGATGACAAAGCAAGGACGCTACTATGATGAAACA  
CCCTACACACTGGAACAAAACTTTCAGAAAATATCTGGTGGCTATTAGAAGCTTTCTCAACGTTTGGATATAGACATTCTGAC  
GGAAATGGAACCTTCTCTCTGATAAAGAAAAGCAATTGAACGTTAGGACTTGGAAAGTAG

4197.4 (SEQ. ID. NO. 350)

ATGCTTGATTGGAACAATTTTTCTAGCCTATCTGCGCTCCCGTAGTCGCTTTTTATCTATCTGCTTTCTTTGGCATTCTTG  
TCTTACTCTTTCACTTTTTTATTTGCCAGTCTAGGAATTTACTTCTCTACTTTTTCTTCTTGTGTTGCTTTGTAAACCATATTATTT  
TTCACCTTGGGACATATTGGTGGAAACGCAGGTCTATCGCCAGGAACCTTCTCTATGGAGAGAGGGAAGCCAAAGTCTCCTTTGG  
AAATAGCTTTAGCAGAAAAATTAGAACGCGCTGAGATGGAACCTCTATCAGCAGAGGTCAAAAGCAGAAAAGAAAAGTACCGG  
ATTTGCTGGATTACTATACCTTGTGGGTCCATCAGATAAAGACCCCCATTGCAGCCAGTCAACTCTTAGTTGCAGAAAGTGGTC  
GACCGCAACTGAAAGCAGCAGCTAGAACAGGAAATTTTCAAAAATCGACTCCTATACCAACCTAGTTTACAGTACCTGCGTT  
TAGAAAGTTTCCATGATGATTGGTCTTAAAGCAGGTTCAAATTGAGGACTTGGTCAAGGAAATAATTCGTAATATGCTCTT  
TCTTTTATTCAAAAAGGCTTAAATGTCAATCTACATGACCTTGATAAAGAAAATCGTGACGGATAAAAAAGTGGCTGCTAGTGG  
TTATTGAGCAAAATCATCTCAAAACAGTCTCAAGTACACCAAGGAAGGTGGTCTGGAGATTATATGGATGACCAAGAGCTTTG  
TATCAAAGATACGGGAATCGGGATAAAAAACAGTGATGTCTCCGAGTATTTGAACGTGGCTTTTCAGGATACAATGGCCGT  
TTGACCCAGCAGTCTCTGGACTTGGCCTTTATCTATCTAAGAAAATTTCTGAAGAACTGGGGCACCAGATTCTGATCGAGTC  
TGAGGTGCGAAAAGGAACGACAGTGCGGATTCACTTTGCTCAAGTGAACCTTAGTCTTTGAGTAA

4211.2 (SEQ. ID. NO. 351)

ATGGAACCTTAATACACACAATGCTGAAATCTTGCTCAGTGCAGCTAATAAGTCCCAGTATCCGCAGGATGAACTGCCAGAGA  
TTGCCCTAGCAGGGCGTTTCAAATGTTGGTAAATCCAGCTTTATCAACACTATGTTGAACCGTAAGAATCTCGCCGTACATCA  
GGAAAACCTGGTAAAACCCAGCTCCTGAACTTTTTTAAACATTGATGACAAGATGCGCTTTGTGGATGTGCTGGTTATGGCTA  
TGCTCGTGTCTTAAAAAGGAACGTGAAAAGTGGGGGTGCTGATTGAGGAGTACTTAACGACTCGGGAAAAATCTCCGTGCG  
GTTGTCAGTCTAGTTGACCTTCGTATGACCCGTGACAGATGATGTGCAGATGTACGAATTTCTCAAGTATTATGAGATTCC  
AGTCATCATTTGGCGACCAAGGCGGACAAAGATTCCCTGTGTTAAATGGAACCAAGCATGAATGCAAAAAGAAATTT  
AAACTTTGACCCGAGTGACGATTTATCTCTTTTCTATCTGTGAGTAAGGCAGGGATGGATGAGGCTTGGGATGCAATCTTAG  
AAAAATTGTGA

4211.3 (SEQ. ID. NO. 352)

ATGACAAAGAAACAACTTCACTTGGTGATTGTGACAGGGATGAGTGGCGCAGGGAAAACCTGTAGCCATTCACTCCTTCGAGG  
ATCTAGGTTATTTACCATTGATAATATGCCGCCAGCTCTTTCCTTAAGTTTTCAGCTGTTTGAATTAAGGAAGACAAT  
CCTAAGTTGGCCTTGGTAGTGATATGCGTAGCCGTCTTCTTTTTCAGAGATTCAAGCTGTTTGGGATGAGTTGGAAAATCA  
AGATGGTTTGGATTTCAAAATCCTCTTTTGGATGCGGCTGATAAGGAATTGGTCGCTCGTTACAAGGAAACCAGACGGAGT  
CAACCACTAGCAGCAGACGGTCTGATTTTAGATGGAATCAAGTTGGAACGTGAACCTTGGCACCTTTGAAAAATATGAGCC  
AAAATGTGGTGGATACGACTGAACCTCACTCCAGTGAGTGCAGAAAACCCCTTGCAGAGCAGTTTTCAGACCAAGAAACAGC  
CCAGTCTTTCCGTATCGAAGTCATGTCTTTCCGATTTAAGTATGGAATCCCGATTGATGCGGACTTGGTCTTTGATGTCCGTTT  
CTTGCCAAAATCCCTATTATTTACCAGAACTGAGAAAACCAACGGGTGTGGATGAACCTGTTTATGATTATGTATGAACCATC  
CTGAGTCAGAAGACTTTTATCAACATTTATTGGCCTTGATTGAGCCGATTTCTGCCAAGTTACCAAAAGGAAGGTAAGTCCGTT  
TTGACCATTTGCCATGGGATGTACGGGTGGACAAACACCTAGTGTGGCATTGTCTAAACGCTTGGCGCAGGACTTATCCAAGA  
ATTGGTCTGTTAATGAAGGGCATCGCGACAAAGACCGCAGAAAAGGAAACGGTAAACCGTTTATGA

4211.4 (SEQ. ID. NO. 353)

ATGAGAAAACCAAAGATAACGGTGATTGGTGGAGGGACTGGAAGTCCCGTCATTCTAAAAAGTCTGCGGGAAAAAGATGTG  
GAAATCGCAGCTATCGTGACGGTGGCAGATGATGGTGGTTCTTCAGGTGAACCTCGAAAAAATATGCAACAGTTGACACCGC  
CAGGTGATCTTCTGTAATGTCCTTGTGGCCATGTCCGATATGCCATAAGTTTATGAGAAGGTCTTTCAGTATCGGTTCTCTGAG  
GATGCCGGAGCCTTTTGGTGGCCATCCATTGGGAAATCTCATCTTGTCTGGCTTGTGAGAAAATGCAGAGGTTCAACCTATAATGC  
CATGCAGTTATTGAGCAAAATTTTCCATACAACAGGGAAAAATTTATCCTTCCAGTGACCATCCTTTGACCCTTCATGCAGTCTT  
TCAGGATGGGACAGAAGTGGCTGGAGAGATCATATTGTAGACCATCGAGGCATAATTGACAATGTCTATGTGACCAATGCC  
CTAAACGATGATACGCTCTGGCCAGCCGTGAGTAGTGACAGACCATCCTTGAAAGTGACATGATTGTCTTAGGGCCAGGTT

CCCTCTTTACCTCTATTTTGGCCCAATATCGTGATTAAGGAAATTTGGGCGGGCTCTTTTGGAAACCAAGGCAGAAATTGCCTAT  
GTCTGCAATATCATGACCCAACGTGGGGAGACGGAACACTTTACAGATAGCGACCACGTGGAAGTCTTGCATCGTCACCTTG  
GTCGCCCTTTTATCGACACTGCTTGGTGAATATTGAAAAAGTGCCTCAGGAATACATGAATTCACCGTTTGTATGAATAC  
TTAGTGCAAGTGGAACACGATTTTGTAGGTCTTTGTAAGCAAGTTTCGCGCGTGATTTTCATCTAACTTCCTTCGTCTGAAAA  
TGGCGGTGCCTTCCACGATGGAGATTTGATTGTGGACGAGTTGATGCGCATTATACAGGTGAAAAAATGA

4213.1 (SEQ. ID. NO. 354)

ATGAAAAATTTGATAAAGTTGCTAATAATTAGATTGATTGTTAACTTAGCAGACAGTGTATTTTATATAGTAGCATTGTGGCA  
CGTTAGCAATAATTTCTTCGAGCATGTTCTTAGGAATATTTATTCGAGTAAATTATCTACCGGATTTGTTACTAATCTTTTT  
TGGACCAAGTTATTGACAGAGTAAATCCGCAAAAAATTTCTATAATATCAATTTTGGTTCAATTAGCAGTGGCTGTAATATTTT  
TATTATTATTAACCAAAATATCATTTTGGGTGATAATGAGTCTAGTGTTTATTTTCAGTAATGGCTAGCTCCATAAGTTACGTG  
ATAGAAGATGTGTTGATTTCCTCAAGTGGTAGAATATGATAAGATTGATTTCGAAATTCCTCTTTTATGATTTCGTATAAAGT  
ATTAGATTCTATTTTAAATTCATTTCGCATCATTTTACAGGTGGCAGTAGGATTTATTTTATTGGTTAAGATAGATATAGGCAT  
ATTTTACITGCTCTATTTATATTGTTGTTGTTAAAAATTTAGAAGTACGAATGCGAATATAGAAAACTTCCTTTCAAATATTA  
CAAGAGAGAAGTGTGCAAGGTACAAAGTTTATTTTAAATAATAAATTATTTTAAAACCAAGTATTTCTTTAAACGCTTATAA  
ACTTTTTTTTATTCTTTTACAGCAGTAGTTGACCGATTTTTCTATTCGATATTTTGTATGGTCCGATTTTTTATGGTATTTTTTA  
ACTATTGCTGGTTTGGGTGGTATATTGGGAAATATGCTAGCGCAATCGTAATAAAATTTTAAAATCGAATCAAAATTGTTGG  
TGTATTCTTTTTTGAACGGCTCAAGTTGGTTAGTAGCAATTGTTATAAAAGACTATACTTTATCACTTATTTTATTTTTCGTT  
TGTTTTATGTCTAAAGGAGTCTTCAATATTATTTTAAATTCGTTGTACCAACAAATACCTCCACATCAACTCTTGGTAGGGTA  
AATACTACCATTGATTCTATTATTTCTTTTGAATGCCAATTGGTAGTTAGTTCAGGAACGCTTATTGATTGAATATTGAA  
TTAGTGTTAATTGCTATTAGCATACCTTATTTTTGTTTCTTATATTTTTATACGGATAATGGATTGAAAGAAATTTAGTATAT  
ATTAG

4213.2 (SEQ. ID. NO. 355)

ATGATGTCTAACAAAAATAAGGAAATTTCTGATTTTTCGATTCTCTATACAGTCCCTCTTTATGTTTGTATGGCGTTAAATTGCTG  
GCTTCTTTAATGCCATCTGCCATTGCAAAATATCTGTTTATGTAGTTTTCAGTCTATATGGCTCCTTCTGTTCAAGGATAGAT  
TGATCCAACAATGGAAGGAGATTAGAAAAGACTAAAAGAAAAATCTTCTTTGGAGTCTTAACAGGATGGCTCTTTCTCATTCT  
GATGACTGTTGCTTTGAATTTGTATCAGAGATGTTGAAGCAGTTTGTGGGACTAGATGGACAAGGTCTAAATCAGTCTAATA  
TTCAAAGTACCTTTCAAGAACAACCACTACTGATAGCTGTTTTGCTTGTGTCATTGGACCTCTGGTAGAAGAATTATTTTTCC  
GTCAGGCTTTATGCAATTACTTGCAGGAACGGTTGTCAGGTTTACTAAGCATTATTCTGGTAGGACTTGTTTTTGCTCTGACTC  
ATATGCACAGTTTGGCTCTATCAGAGTGGATTGGTGCAGTTGGTTACTTAGGTGGAGGCCTTGCCTTTTCTATTATTTATGTGA  
AAGAAAAAGAGAATATCTACTATCCCTACTTGTTCACATGTTAAGCAACAGCCTCTCCTTAATCATTTTAGCTATCAGTATA  
GTAAATGA

4224.1 (SEQ. ID. NO. 356)

TTGAAAAAGCCAATTATCGAATTCAAAAACGTCTCTAAAGTTTTTGAAGACAGCAACACCAAGGTTCTCAAAGACATCAACT  
TTGAGTTGGAAGAAGGAAATTTACACCTTCTAGGTGCATCTGGTTTCGGGGAATCAACTATCCTAAACATTATTCAGG  
TTTACTGGAATGCGACGACAGGAGATATCATGTAGACGGTGTTCGATCAATGATAATCCAACCAAGCGCGACGTACAT  
ACCGTCTTCCAATCCTATGCCTTGTTCACATATGAATGTGTTGAAAAATGTTGCCCTTCCACTTCGCTTGCCTAAAATTGAT  
AAGAAAGAAATCGAGCAGCGTGTAGCGGAAGTTCTCAAGATGGTTTCAGTTGGAAGGTTATGAAAAACGTTCCATCCGCAAA  
CTTCTGGAGGACAACGTCAGCGTGTGGCCATCGCCCGTATCATCAACCAACCCCGTGTGGTCTTGTGGACGAGCCTTT  
ATCAGCGCTGGACTTGAAATTGAGAACAGACATGCAGTACGAATTGCGTGAATTACAACAACGATTGGGCATTACCTTTGTC  
TTTGTCACTCAGATCAGGAAGAAGCTCTTGCCATGAGTGAAGTGGATTTCGTTATGAATGATGGCGAGATTGTCCAGTCTGG  
AACCCTGTGGACATCTACGATGAGCCAATCAACCACTTTGTTGCCACCTTTATCGGGGAGTCAACACATCTTGCAGGTACCA  
TGATTGAGGACTACTTGGTCGAATTTAACGGCAACACGCTTTGAAGCGGTTGATGGTGGGATGAAGCCAAATGAACCTGTTGA  
GGTCGTTATTGCTCCAGAGGACTTGGCATTACCTTCTGAAGAAGGCAAGCTCCAAGTTAAGGTCGATACCCAGCTTTTCC  
GTGGAGTTTATTATGAAATTATCGCCTATGACGAACCTTGAAATGAAATGGATGATCCACTCAACCCGTAAGGCTATCGTGGG  
TGAGGAAATCGGCTGGAATTTGAACCAAGACATCCACATCATCGCTCAATGAAACCGAAGAGAGTTTCGATGCTCGT  
ATTGAGGAGTACGTAGAAATCGAAGAGCAAGAAGCAGGTTTGATCAATGCAATCGAGGAGGAAAGAGATGAAGAAAAACA  
GCTCTAA

4252.1 (SEQ. ID. NO. 357)

ATGAAATCAATGAGAATCTTATTTTTGTTAGCTTTAATTCAAATCAGTTTGAGTAGCTGTTTCTATGGAAGGAATGCATCTT  
GTCCTTTAAACAAAGTACAGCTTTTTTCATCGGAAGCATGGTTTTCGTTTCAGGAATCTGTGCTGGAGTAAATTATCTTTATAC  
CCGTAAGCAAGAAGTCCATAGTGTCTAGCCAGTAAGAAGTCCGTTGAAGCTTTTTACAGTATGTTACTCTTAATTAATTTGT  
TAGGAGCTGTTCTTGTTTTGTGAGATAACTTGTTCATCAAAAAATACGCTGCAGCAAGAATTAGTTGACTTTTTATTGCCATCCT  
TCTTTTTCTATTTGGGCTAGATTTGCTGATTTTTTACCCTTGAAAAAATACGTGCGCGATTTTCTTGCTATGCTGGACAGAA  
AAAAGACAGTGTGGTGACTATTTAGCAACACTCTTTCTTAAAGAAATCCAATGACCATTGTCTCACTTCTGATTATATTG  
GACTGGGCTGTTTTTGTGAGCCTATCTTGTCCCAAATTCGGTTAAGAAGGAAGTTTCTTTTATGGTCAATTTTTCCGAGATC  
TTGATTGGTCATTGTTACGCTCATTTCTTTTAG

4252.2 (SEQ. ID. NO. 358)

ATGGTTAAAAAAATTTAGGAATGGTGCTAGCTTTACTTTCTGTAAGTGTAGTAGGAGTAGGTGTTTTGCTTATACTATTTAT  
CAACAAGGGACAGAAACCTTAGCTAAAACTATAAAAAAATCGGTGAAGAAACCAAGGTTATTGAAGCGACTGAACCTCTA  
ACCATCTGTTAATGGGAGTGGACACCGGAAATGTTGAACGAAGTGAACCTTGGGTCGGTAGAAGTGATAGCATGATCTTGA  
TGACAGTGAATCCTAAAAACGAAAAAACAACAATGATGAGTTTGAAGCGGGATATTCTGACCGCATTTGAATCAGGGAATG  
GTCAGGCTCATGAAGCGAACTGAAGTACGATATGCAGATGGTGGAGCAGAGCTTGTATAGAAACCAATTCAAAAAATGA  
TGAATATCCATATTGATCGCTATGTGATGGTCAATATGAGAGGATTGCAAAAACTAGTGGATGCAATGAGGAGTATTACAGT  
CAATAATATCCTAGGTTTCCCAATTTCTATCAGTGACCAAGAAAGAAATTAATACTATTTCTATCGGTGTTGGGAGCAACATA  
TTGGGGGAGAAAGACCTAGTCTATGCACGAATGCGTTTACCAAGATCTGAGGGGGATTATGGTCTGCAAAAAACGTCAC  
GTGAAGTTATTCAAAAAGTCAATGAAAAAGCTCTCAGTTTAAATAGCATTGGTCAATTATCAAGAGATTCTAAAAGCTTTGAG  
TGACAATATGCAGACCAATATTGATTGTCTGCAAAAAAGTATCCCTAAGTGGTATAGGCTATAAAGATTCAATTTAAACCAATTG



AAACTCAGCAGTTGCAGGGTGAAGGAGAGATACTTCAAGGTGTTTCTTACCAGATTGTTTCGAGAGCACATATGTTGGAAAT  
GCAAAATCTACTCCGACGTTCTTTGGGACAAGAAGATTACTCAGCTTGAAACCAATGCGGTTTTATTTGAAGATTTATTTG  
GCAGAGCACCTGTTGGTGATGAAGATAATTAA

4256.2 (SEQ. ID. NO. 359)

ATGAAAAACAAGCCTATGTCATTATTGCTCTCACCTCCTTCTATTTGCTTTTTTTCTCCACAGCTTGCTGGAAATACTT  
GATTTTGAAGTGTCTATCTTTTGCACGATGTCGAAAAACAGAAAAATTTGCTTTTTATTGTTGGTTTTTCAGCATGTCATG  
ACCTGTCTCTTAGCCCTGTTTTGGCGAGGGATCGAAGAGCTTTCTCTAAGAAAAATGCAGGCTAATCTCAAGCGTTTTATTAGC  
AGGGCAAGAAGTGGTTCAGGTTGCAGATCCAGATTGGATGCCAGTTTCAAGTCCTTATCAGGTAAACCTTAACCTTTTGACA  
GAGGCTCTTCAAAAAGCTGAAAATCAGAGCCTTGCTCAGGAAGAGGAAATCATCGAGAAGGAACGGAAGCGAATTGCTCGG  
GATTTGCACGATACAGTCAGTCAGGAGTTGTTTGGGCCCCACATGATTTTATCGGGTATCAGTCAGCAGGCTTTGAAATTGGA  
TAGAGAAAAGATGCAGACCCAGTTGCAGAGTGTCACAGCTATTTAGAAAACAGCCAGAAAGGATTTGCGGGTTTTGCTCTTG  
CATTTGCGACCAAGTTGAACTGGAGCAGAAGAGCTTGATAGAAGGGATTCAAATTTCTTTAAAAGAGCTTGAGGACAAGAGTG  
ATCTTAGGGTTAGTCTCAAGCAGAAATGACGAAATTTGCCTAAGAAAAATCGAGGAGCATATCTTCCGTATCCTGCAAGAGTT  
GATTAGCAATACCCTCCGACATGCCAGGCATCTTGCTAGATGTTCTACCTCTATCAGACAGATGTTGCAACTGCAACTGAAGG  
TGGTGGCAATGGGATTGGTTTCCAGTTAGGGAGCTTAGACGACTTGAGTTATGGACTGCGAAATATCAAGGAGCGGGTTGA  
AGATATGGCTGGAACAGTTCAACTCTTGACAGCTCCCAAGCAAGGGCTGGCGGTTGATATCCGTATTTCCCTGTTAGATAAG  
GAATGA

4263.1 (SEQ. ID. NO. 360)

ATGATTGTTTCCATTATTTCTCAAGGATTTGCTCTGGGCTATTCTAGGTCTGGGAATCTTTATGACATTTAGGATTTTAACTTT  
CCAGATATGACGACAGAAGGTTCCCTCCCTCTTGGGGAGCTGTTGCTGTCACTTTGATAACCAAGGCGTGAACCCATTTT  
AGCGACACTTGTGCTGTAGGAGCAGGTTGTTTGGCTGGAATGGCAGCAGGCTTCTTTATACAAAAGGGAAGATCCCAACC  
TTGCTCTCAGGGATTTGGTGATGACTTCTTGCTCACTCAATCATGCTCTTGATTATGGGACGTGCGAATTTAGCCTGCTTGGA  
ACCAAGCAAATTCAGGATGTTTTGCCITTTGATTCCGATTTGAATCAACTCTTGACAGGTCTCATCTTTGTGAGTATTGTTATT  
GCTCTCATGCTCTTTTCTTGGACACTAACTCGGACAAGCCTATATTGCTACAGGGGATAATCTGATATGGCTAGAAGTT  
CGGGATTCTACTGGACGCATGGAGCTCATGGGCTTGGTCTTATCAAATGGTGTGATTGCCCTTGACAGGTGCCCTCATTGCTC  
AGCAAGAAGGTTATGCCGATGTGTCTCGAGGGATCGGGGTTATCGTTGTGGGGCTTGCAAGTTTGATTATTGGAGAAGTTAT  
TTTCAAGAGTTTGAGCTTGGCAGAGCGTTTGGTTACTATCGTTGTAGGTTCTATCGCTTATCAATTTTTAGTGTGGGCGAGTTAT  
CGCACTTGGCTTTAATAACAAGTTACCTTCTGTTTATACAGTGCCCTGATTTTAGCAGTCTGCCTCATGATTTCCAACATTTAAGCA  
AACAATCTTGAAAGGAGCCAAGTTAAGCAAATGA

4346.1 (SEQ. ID. NO. 361)

ATGAAAAAATGAAAGTTTGGTCTACTGTACTTGAACGGGAGTTGCTCTTACTACACTTGCTGCTTGGAGGTTCAAA  
TTCTACGACTGCTTCTTATCTGAAGAAAAAGCTGATAAAAGTCAAGAATTAGTTATCTATTGCAACTCAGTCTCAAATGGTC  
GTGGTGATTGGTTAACTGCTAAAGCAAAAGAAGCTGGTTTAAATATAAAAAATGGTTGATATCGCTGGCGCTCAATTAGCAGA  
CCGTGTTATTGCTGAGAAAGAATAATGCAGTTGCAGATATGGTATTGGAAATGGTGCTGTTGATTCAAATAAAATTAGAGATC  
AAAAATTACTAGTACAGTACAAGCCTAAATGGTTAGATAAAATTGATCAATCTTTATCAGATAAAGATAATTATTATAATCCT  
GTGATTGTTCAACCATTAGTTTTAATTGGGGCGCTGATGTAAGAAAGAAATGCCTAAAGATTGGACTGAATTAGGTAGTAAGT  
ATAAAGGTAAATATTCAATTTCTGGTCTTCAAGGAGGTACAGGACGGGCAATTCTAGCAAGTATCTTAGTTCGATACCTTGAT  
GATAAAGGTGAATTAGGTGTTTCCGAAAAAGGTTGGGAAGTAGCAAAAGAATATTTGAAAAATGCATACACTCTTCAAAAG  
GGAGAAAGTTCAATTGTTAAGATGTTAGACAAAGAAGATCCAATACAATATGGAATGATGTGGGGTTCTGGTGCAATTAGTTG  
GACAAATAAGAACAAAAATGTTGTTTTCAAAGTTATGACTCCTGAGATTGGTGTAACCTTTGTAAGTGAACAACTATGGTTTTA  
AGCACTAGTAAAAAACAGCGTTAGCTAAAGAAATTTATTGTTGGTCAATCAGAAATTCAAGTAGAATATAGTAAGA  
ACTTTGGATCTATTCTGCAATAAAGATGCCCTCAAAGATCTACCTGAAGATACGAAGAAATTTGTTGATCAAGTGAAACC  
ACAAATATTGACTGGGAAGCTGTTGGAAAGCATTGGATGAATGGGTAGAAAAAGGTGAATTAGAATACGTACAATAA

4346.2 (SEQ. ID. NO. 362)

ATGATTAAATTTGATAATATTCAAATTAATATGGTGATTTTGTGCAATTGATAATCTGAATTTAGATATACATGAAGGGGA  
ATTTTTACATTTCTTGGGCTTCAGGATGTTGTAATCAACTACTTTGAGAGCATTGGTAGGTTTTCTAGATCCATCATCAGG  
AAGTATTGAAGTTAATGGAACAGATGTCACTCAATTTGGAACCTGAAAAGCTGGAATTTGATTGTTCAATCTTATGCGC  
TATTTCCAATATGACTGTTTTGATAATATTGCATTTGGTTTAAAAGTTAAGAAGGTAGCTCCAGATGTTATTAAGCTAAA  
GTATCAGCAGTGGCAGCAAAATTAAGATCTCTGATCAACAGTTACAGCGTAATGTATCAGAAATTATCTGGGGGTCAACAA  
AAAGGTAGCATTTGGCTCGTCTGTTCTGAACCTAAAATTTCTTGTCTAGATGAACCATTTGCAACCTTGAACGCAAAA  
TTACGTGTAGATTGAGAAAAAGAGTTGAAAAGACTTCAAAAAGAGTTAGGTATTACTACTTTATGTTACTCATGATCAAG  
AGGAAGCCTTGACTTTATCTGATAGAATTGCAGTCTTTAACAATGGATACATCGAACAGGTCCGTACACCAGTAGAGATTTA  
TCATAATTCTCAAACCTGAATTTGTATGTGATTTATTGGAGATATTAATGTTTTGACCGATGAAACAGTCCACGAAGTATTAT  
TGAAAAATACAAGCGTTTTCTTAGAGGATAAAAAAGGATACATTCGATTAGAGAAAGTTTCGATTCAATCGTGAAACTGAACA  
AGATTTTATTCTAAAAGGACAATTATTGATGTTGAGTTTTCTGGAGTTACAATTCACTATACAATAAAAGTTTCTGAAAGTC  
AGATTTCTAATGTAACAAGTATTGATAGTCAGGCTGCTATTAGATCTGTGCGAGAAAGTGTGGAATTATTTATCACACCATCA  
GACGTTCTGCAATTTAA

4346.3 (SEQ. ID. NO. 363)

ATGCGTCAATAAATTTAAAGATTGGCTTATTCTGTTTAGGGTTAATCTGGTTCTTAGTAACATTTATTTATTCCAAAC  
TTTGATCTAGTAGTAATGTATTTGTAAGGAGGAGAATTTCCCTTGATGCTGTACATCGTGTTCTAAAATCTCAGAGGGC  
ACTTCAGAGTATTATGAACAGTTTAAAGTTAGCATTTTCACTCATTATTACAGTTAATGTGCTAGGTATTTCTTTGTTCTATT  
TACAGAGTACTTTGATATTAAGGTGCTAAAAATTTAAAATTTAGGTTATATGACCTTTAAATTTATGGAGGAGTGGTTTTAG  
CGACTGGATATAAATTTGCTATGGTCTTATGGATTGATTACAAAAATTTTACAAAAATGTTATCCCTTCTTAGACCTAACT  
GGTTATTGGGTATGGTGAGTCTTATTCATTATGACATTTTCAGGAAGTCTAATCATACATTGTTTTTAAACAAATACAATTC  
GAAGCGTTGACTATCACTATTGAGGCTGCTCGAAATATGGGAGCAAAACCATTTACTGTTTCCGAAAAGTAGTGTACC  
AACCTTAATTTCAACTCTATTGCACTTACTATTAATGTTTTTCTTAGTGGTTTATCTGCAGTAGCAGCACCCTGATGTTGTTGG  
TGGTAAAGATTTCAAACTATAAATCCAATGATTATTACATTTGCAGGAGTGGGAATTTCTGTTGATTGTTGCTGCTCACTG  
CAATTTATTTAGGTATTGCAACTACAATTTTGTCTACTATCATGAATAAGATAGAAAAAGGTGGAAATTTATTTCTATCTCT  
AAGACTAAAGCGCTCTTAAAAAACAAAAAATTGCGTCTAAGCCTTGGAATATCATTGCTCACATTGTAGCATATGGATTGT  
TCACAGTTTTATGCTTCCACTAATTTTTATAGTATTATACTCATTTACAGATCCAGTTGCAATTTCAACAGGTAACCTAACAT



ab  
TATCAAACCTTTACTTTAGAAAATTATCGCTTATTCTTTAGTAATAGTGCGGCATTCTCTCCATTCTTGGTCAGCTTTATTTATTC  
TATTATTGCTGCGACAACAGCAACAATTCTCGCAGTTGTATTTGCTCGTGTGTCAGAAAACATAAATCTCGTTTGGATTCTT  
ATTTGAATATGGTGCTCTACTTCCTTGGTTACTACCAAGTACACTTTTAGCAGTAAGTTTATTATTTACTTTTAATCAGCCACA  
ATTTCTTGCTTGAATCAGATTTTGGTAGGTAGTTGGTAATTCTACTTATTGCATATATAGTTGTA AAAATCCCATTTCCTTAT  
AGAAATGGTACGTGCTATTTTATTTAGTGTTGATGATGAGATGGAAGATGCAGCAAGAAAGTATGGGTGCTTCACCTTTTTATAC  
TATGATGAAGGTTATCATTCCATTTATTTACCGGTTGTTCTCTGTTATTGCTTTAAACTTTAACTCTTTATTAAGTGAATC  
GACTTATCTGTATTCCTTTACCATCCCCTAGCTCAACCATTAGGTATTACGATTCGATCTGCAGGTGATGAAACAGCAACATC  
TAATGCACAAGCTCTGGTATTTGTTTATACAATTGTTCTGATGATTATTTCTGGAACGGTATTATACCTCACACAAAGACCGG  
GGCGTAAAGTAAGGAAATAA

---

Table 2

(SEQ. ID. NO. 1)

MEELVTLDCFLIDRTKIEANANKYSFVWKKTEKFSAKLQEIQVYFQEEITPLLIKYAMFDDKKQKRGYKESAKNLNWHYNDKE  
DSYTHPDGWYRFRHHTKYQKTQTDQFQEIYVYADEPESAPQKGLYMNERYQNLKAKECQALLSPQGRQIFAQRKIDVEPVFGQI  
KASLGKRCNLGRKQVRIDMGLVLMANNLLKYSKMKZ

(SEQ. ID. NO. 2)

MGKGHWNRKRVSIRKFAVGACSVMIGTCAVLLGGNIAGESVYVADETLLHTAEKPKEEKMIVEEKADKALETKNIVERTEQSE  
PSSTEIAIASEKKEDEAVTPKEEKVSAKPEEKAPRIESQASNQEKPLKEDAKAVTNEEVNQMIEDRKVDNFQNWYFKLNANSKEAIK  
PDADVSTWKKLDLPYDWSIFNDFHESPAQNEGGQLNGGEAWYRKTFKLDEKDLKKNVRLTFDGVYMDSQVYVNGQLVGHYP  
NGYNQFSYDITKYLQKDGRENVIAVHAVNKQSSRWYSGSGIYRDVTLQVTDKVHVEKNGTTILTPKLEEQQHGKVEHVTSTKIV  
NTDDKDHELVAEYQIVERGGHVAVTGLVRTASRTLKAHESTSLDAILEVERPKLWTVLNDKPALYELITRVYRDGQLVDAKKDLFG  
YRYHHWTPNEGFSNLGERIKFHGVSLLHHDHGAALGAEENYKAEYRRLKQMKEMGVNSIRTTNHPASEQTLQIAAELGLLVQEEAF  
DTWYGGKKPYDGRFFEKDATHEARKGEKWSDFDLRTMVERGKNNPAIFMWSIGNEIGEANGDAHSLATVKRLVKVIKDVVDK  
TRYVTMGADKFRFGNGSGGHEKIADELDAVGFNYSEDNYKALRAKHPKWLIYGETSSATRTGRSYYRPERELKHSNGPERNYE  
QSDYGNDRVGVWGKTATASWTFDRDNAGYAGQFIWTGTDYIGEPTPHWNQNTQTPVKSSYFGIVDTAGIPKHDYLYQSQWVSVK  
KKPMVHLLPHWNWENKELASKVADSEGKIPVRAYSNASSVELFLNGKSLGLKTFNKKQTSDBGRTYQEGANANELYLEWKVAYQ  
PGTLEAIARDESNGEIAARDKITTAGKPAAVRLIKEDHAIADGKDLTYIYIEIVDSQGNVVPATANLVRFLHGGQQLVGVNDGEQ  
ASRERYKAQADGSWIRKAFNGKGVAIVKSTEQAGKFTLTAHSDLLKSNQVTVFTGKKEGQEKTVLGTEVPKVQTIIGEAPEMPTT  
VPFVYSDGSRAERPVTWSSVDVSKPGIVTVKGMADGREVEARVEVIALKSELPPVKRIAPNTDLNSVDKSSVYVLIDGSVEEYEV  
KWEIAEEDKAKLAIPGSRIGATGYLEGQPIHATLVVEEGNPAAPAVPTVTVGGEAVTGLTSQKPMQYRTLAYGAKLPEVTASAKN  
AAVTVLQASAAANGMRASIFIQPKDGGPLQTYAIQFLEEAPKIAHLSLQVEKADSLKEDQTVKLSVRAHYQDGTQAVLPADKVTF  
TSGEGEVAIRKGMLELHKPGAUTLNAEYEGAKDQVELTIQANTEKKAQIRPVNVVTDLHQEPSLPATVTVEYDKGFPKTHKVT  
WQAIPEKCLDSYQTFEVLGKVEGIDLEAKVSVVEGIVSVVEEVSVTPIAEAPQLPESVRTYDSNGHVSSAKVAWDAIRPEQYAKE  
GVFTVNGRLEGTQLTKLHVRVSAQTEQGANSISDQWTGSELPLAFASDSNPSDPVSNVNDKLISYNNQPANRWTNWNRNTNPEASV  
GVLFGDSGILSKRSVDNLSVGFHEDHGVGVPSKYVIEYYVGKTVPTAPKNPSFVGNEDHVFNDSANWKPVNTLKAQQLKAGEM  
NHFSFDKVETAVRIRMVKADNKRGTSTIEVQIFAKQVAAAKQGQTRIQVQDGDLANFNPDLDYLLSVGDKVPAVTVASVSN  
GLATVVPVSVREGEPRVIAKAENGIDILGEYRLHFTKDKSLLSHKPVAAVKQARLLQVGALELPTKVVPVYFTGDKGYETKDLTVE  
WEEVPAENLTAKGQFTVRGRVLSNLVAEITVRVTDKLGTELSDNPNYDENSNAFASATNDIDKNSHDRVLDYLDNDGDHSENR  
WTNWSPTSSNPEVSAGVIFRENGKIVERTVTQGGVQFFADSGTDAPSCLVLERYVGPFEFVPTYYSNYQAYDADHPFNPNPENWE  
AVPYRADKDIAAGDEINVTFAIKAKAMRWMERKADKSGVAMIEMTFLAPSELPQESTQSKILVDGKELADFAENRQDYQITYK  
GQRPKVSVEENNQVASTVVDSDGDSFVLVRLVSESGKQVKEYRIHLTKEKPVSEKTVAAVQEDLPKIEFVEKDLAYKTVEKKDS  
TLYLGETRVEQEGKVGKERIFTAINPDGSKEEKLREVVEVPTDRIVLVGTPKVAQEAKKPVSEKADTKPIDSSSEASQTNKAQLPST  
GSAASQAAVAAGLTLLGLSAGLVVTKGKKEDZ

(SEQ. ID. NO. 3)

MKIMKKKYWTLAILFFCLFNNSVTAQEIPKNLDGNITHTQTSSESSESDEKQVDYSNKNQEEVDQNKFRIDKTELFTVTTDKHLEK  
NCCKELEPQINNDIVNESNNLLGEDNLDNKKIKENVSHLDNRGGNIEHDKDNLESSIVRYEWDIDKVTGGGESYKLYSKSNSKV  
SIALDSGVLDQNTGLLKNLSNHSKNYVPNKGYLGKEEGEGIISDIQRLGHGTAVVAQIVGDDNNGVNPVHNINVRIFGKSSA  
SPDWIVKAIFDAVDDGNDIINLSTGQYLMIDGEYEDGTNDFFETFLKYKKAIDYANQKGVIIAALGNDLSLVNSQSDLLKLISRKK  
VRKPGLVVDVPSYFSTISVGGIDRLGNLSDFSNGKSDAIYAPAGSTLSLSELGLNNFINAEKYKEDWIFSATLGGYTYLYGNSFA  
APKVSGAIAMIIDKYKLDQPYNYMFVKKFWKKHYQZ

(SEQ. ID. NO. 4)

MKKTWKVFLTLVATLAVVLVACGQGTASKDNKEAELKKVDFILDWTPNTNHTGLYVAKEKGYFKEAGVDVLDKLPPEESSSD  
LVINGKAPFAVYFQDMYMAKLEKAGITAVAIVIEHNTSGIISRSKSDNVSSPKDLVGKKYGTWNPTELAMKTLVESQGGDFEK  
VEKVPNDSNSITPIANGVFDTAWIYYGWDGILAKSQGV DANFMYLKDYVKEFDYYSPIIANNNDYLDKNKEEARKVIAIKKG  
QYAMEHPPEEAADILIKNAPELKEKRDVIESQKYSKEYASDKEKWGQFDAARWNAFYKWDKENGILKEDLTDKGFTNEFVKZ

(SEQ. ID. NO. 5)

MKRTWRNSFVTLNTPFMIGNIEIPNRTVLAPMAGVTNSAFRTIAKELGAGLVMMEMVSDKGIQYNNKTLHMLHIDEGENPVS  
QLFGSDEDSLARAEEFIQENTKTDIVDINMGCPVNVKIVKNEAGAMWLKDPDKIYSIINKVQSVLDIPLTVKMRTGWADPSLA  
LAAEAAGVSALAMHGRTRREQMYTGHADLETLYKVAQALTKIPFIANGDIRTVQEAQRIEEVGADAVMGRAMGNPFLFNQIN  
HYFETGEILPDLTFEDKMKIAYEHLKRLINKGENVAVREFRGLAPHYLRGTSGAAKLRGAISQASTLAEIETLLQLEKAZ

(SEQ. ID. NO. 6)

MIKNPKLLTKSFLRSFALGGVGLVHIAIYLTFFYYIQLEGEKFNESARVFTLEYLKTKTSDEIPSLLQSYSKSLTISAHLKRDIVDKR  
LPLVHDLDIKDGKLSNYIVMLDMSVSTADGKQVTVQFVHGVVDVYKEAKNILLLYLPYTFVLVIAFSFVFSYFYTKRLLNPLFYISEV  
TSKMQLDDNIRFDESRLKDEVEGVGKQINGMYEHLKVIYELESRNEQIVKLQNKQVSVFVGASHLKTPLASRLIENMQHNIG  
DYKDHPKYIAKSINKIDQMSHLLLEEVLSSKFQEWTECRETTVKPVLVDILSRYQELAHSIGVTIENQLTDATRVVMSLRALDKVLT  
NLISNAIKYSDKNRVIIEQDGYLSIKNTCAPLSDQELEHFDIFYHSQVITVDKDESSGLGLYIVNNILESYQMDYSFLPYEHGMEFK  
ISLZ

(SEQ. ID. NO. 7)

MYLGDLMEKAECGQSILSFLQESQTTVKAVMEETGFSKATLTKYVTLNDKALDSGLELAHSEDENRLSIGAATKGRDIRSLF  
LESVYKYLQVLYLHYHQAFLAHLAQELVISEATLGRHLAAGNLQILSEFDLSIQNGRWGPEHQIHYFYFCLFRKVVSSQEWEGHM  
QKPERKQEIANLEEICGASLSAGQKLDLVLAHISQQRLRVNACQFQVIEKMRGYFDNIFYRLRLKVPFSFAGQHIPLGVEDGE  
MMIFFSLLSHRILPLDHTMEYILGFGGQLADLLTQLIQEMKKEELLGDTEDHVTYELSQLCAQVYLYKGYLQVYLYQLENRHP  
YLLMEHDFKETAEIIFHALPAFQGGTDLDKKILWEWLQLEIYMAENGQGHMRIGLDTSGFLVFSRMAAILKRYLEYNRFITIEAY  
DPSRHYDLLVTNNPIHKKEQTPVYYLKNLDLMDLVAIRQLLFTZ

(SEQ. ID. NO. 8)

MEFSKKTRELSIKKMQERTLDLLIIGGGITGAGVALQAAAASGLETGLIEMQDFAEGTSSRSTKL VHGGRLYLYKQFDEVVSDTVSE  
RAVVQQIAPHIPKSDPMLLPVYDEDGATFSLFRLKVAMDLYDLAGVSNTPAANKVLSKDQVLERQPNLKKEGLVGGGVYLDFR

NNDARLVIENIKRANQDGALIANHVKAEGFLFDESGKITGVVARDLLTDQVFEIKARLVINTTGPWSDKVRNLSNKGTFQFSQMRPT  
KGVHVLVDSSKIKVQPVYFDTGLGDGRMVVFLPRENKTYFGTTDDTYTGDLEHPKVTOEDVDYLLGIVNNRFPESNITIDDISS  
WAGLRPLIAGNSASDYNGGNNGTISDESFDNLIATVESYLSKEKTREDVESAVSKLESSTSEKHLDPASVSRGSSLDLDRDDNGLTLA  
GGKITDYRKMAEGAMERVVDILKAEFDRSFKLINSKTYPVSGGELNPANVDSEIEAFAQLGVSRGLDSKEAHYLANLYGSNAPKV  
FALAHSLEQAPGLSLADTSLHYAMRNELTSPVDFLLRRTNHMLFMRDSDLSIVEPILDEMGRFYDWTEEEKATYRADVEAALA  
NNDLAEKLNZ

(SEQ. ID. NO. 9)

MMNELFGEFLGTLILLLGNGVAVGVLPKTKSNSSGWIVITMGWGIAVAVAVFVSGKLSPAYLNPVAVTIGVALKGGPLWASVLP  
YILAQFAGAMLGQILVWLQFKPHYEAENAGNILATFSTGPAIKDTSVNLISEILGTFFVLVLTIFALGLYDFQAGIGTFAVGTLIVGIG  
LSLGGTTGYALNPARDLGRIMHSILPIPKNKGDGWSYAWIPVVGVPVIGAAALVLFSLFZ

(SEQ. ID. NO. 10)

MTKKKIERISVIHREKILWLKWFYFMRDKEQPKYSVLERKMFDAAKNQDMLAYQKYATIKQITDIRVQTSEADILEAVKEVYVYNH  
MNVIGACQRLFISQSPAYDKLNKWFNIYSDLVFSVPLPKMGVYHEMVGIZ

(SEQ. ID. NO. 11)

MKNSNEAEMKLLYTDIRTSLEILTREAEELVAAGKRVFYIAPNSLSFEKERAVLEYLSQQASFSITVTRFAQMAYLVNLDPKAT  
TLDDIGLGLAFYKCLAELDPKDLRVYGAIKQDPQLIQQLIELYHEMTKSQMSFLDLENLTDEDKRADLLIFEKVTAAYLNQGGQLAQ  
ESQLSHLIEAIENDKVSSDFNQIALVIDGFTRFSAEEERVVDLLHGKGVEIVIGAYASKKAYTSPFSEGNLYQASVKFLHHLASKYQT  
PAQDCSQTHEKMDSFDKASRLLESSYDFSELALDVDEKDRENQIWSCLTQKEEELVARSIRQKLHENSLSYKHFRILLGDVAS  
YQLSLKTIFDQYQIPFYLGRSEAMAHPLTQFVESILALKRYRFRQEDLINLLRTDLYTDLSDSIDAFEQYIRYLGINGLPAFQQTFT  
KSHHGKFNLERLNLRLRILAPLETFLASRKQKAEKLLQKWSVFLKEGAVTKQLQDLTTTLEAVEQERQAEVWKAFCHVLEQFAT  
VFAGSQVSLEDFLALLHSGMSLSQYRTIPATVDTVLVQSYDLIAPLTADFFVYAGILTQDNLPKISQNTSLLTDEERQNLNQATEEGV  
QLLIASSENKKNRYTMSLVNSARKQLFLSAPSLFNESESKEAYLQELIHFGFRREKRMNHKGLSKEDMGSYHSLSSLVAYH  
QQGEMSDTEQDLTFVKVLSRVIGKLDQOGLNPAIPTSPSSKTLAKDTLQALYPAKQEFYLSLSTGLTEFYRNEYSYFLRYVLGLQ  
EELRLHPDARSHGNFLHRIFERALQLPNEDSFDQRLEQAIQETSQEREFEAYQESLEAQFTKEVLLDVARTTGHLRHNPAIETIKEE  
ANFGGKQDAFIQLDNGRSVFVRGKVDRIDRLKANGAIGVVDYKSSLTQFQFPHFNGLSQLPYLAALKREGEQNFFGAMYLEM  
AEPVQSLMAVQSLAGAVVEASKSMKYQGLFLEKESYLGEFYNKNKANQLTDEEFQLLDYNAALYKKAEEKILAGRFAINPYT  
ENGRSIAPYVQHQAITGFEANYHLGQARFLEKLDLADGKRLVGEKLLQAWLEKIREELNRZ

(SEQ. ID. NO. 12)

MKLIPFLSEEEIQKLQEAEEANSSKEQKKTAEQIEAIYTSQANILVSASAGSGKTFVMAERILDQLARGVEISQLFISTFTVKAATELKE  
RLEKKISKIKIETDDVDLQKHLGRQLADLPNAAGTMDSFQKFLGKHGYLLDIAPNFRILQNSEQLILENEVFHEVFEAHYQGK  
QKETFSHLLKNFAGRGKDERGLRQQVYKIYDFLQSTSNPQKWLSSEFLKGFEKADFTSEKEKLTEQIKQALWDLESFFRYHLDND  
AKEFAKAAYLENVQLILDEIGSLNQESDSQAYQAVLARVVAISKEKNGRALTNASRKADLKPLADAYNEERKTQFAKLQGLSDQI  
AILDYQERYHGDWKLAKTFQSFMSDFVEAYRQRKRQENAFEFADISHYTIENLFPQVRESYQERFHEVMVDEYQDNTNIQER  
MLELLSNGHNRFMVGDIKQSIYRFRQADPQIFNEKFQRYAQNPQEGRLIILKENFRSSSEVLSTANDVFERLMDQEVGEINYDNKH  
QLVFANTKLTPNPDNKAFFLYDKDDTGEEESQTEKLTGEMRLVIKEILKLHKEKGVAFFEIALLTSSRSRNDQILLALSEYGIP  
VKTDGEQNNYLQSLLEVQVMLDTRLVIHNPQDYALVALMKSPMFGFDEDELARLSLQKAEDKVHENLYEKLVAQKMASSQKG  
LIHTALAEKLLQFMDILASWRLYAKTHSLYDLIWKIYNDRFYDYVVGALPNGPARQANLYALALRADQFEKSNFKGLSRFIRMID  
QVLEAQHDLASVAVAPPKDAVELMTIHKSGLEFPYVFIENMDQDFNKQDSMSEVILSRQNGLVKYIAKMETGAVEDHYPKTIK  
LSIPSLTYRQNEELQLASYSEQMRLLYVAMTRAEEKLYLVGKGSREKLESKEYPAKNGKLSNTRQLARNFQDWLWAIKSVFT  
KDKLNFYSYRFIGEDQLTREAIGELETKSPQLQDSSQADNRQSDTIKEALEMLKEVEVYNTLHRAAIELPSVQTPSQIKKFYEPVMDME  
GVEIAGQGQSVGKKISFDLPDFSTKEKVTGAEIGSATHELMQRIDLSQQLTLASLTETLKQVQTSQAVRDKINLDDKILAFFDVTVLGQ  
EILANTDHLVREQPFMSMLKRDQKSQEDFVVRGILDGYLLYENKIVLFDYKTDREYDEPSQLVDRYRQGLALYEEALSRAYSIENIEK  
YLILLGKDEVQVVKVZ

(SEQ. ID. NO. 13)

MELARHAESLGVDAIATIPPIYFRLPEYSVAKYWNDISAAPTNDYVIYNIPQLAGVALTPSLYTEMLKNPRVIGVKNSSMPVQDIQ  
TFVSLGGEDHIVFNGPDEQFLGGRLMGARAGIGCTYGAMPELFLKLNQLIADKDLETARELQYAINAIGKLTSAHGNMYGVIKEV  
LKINEGLNIGSVRSPLTPVTEEDRPVVEAAAALIRETKERFLZ

(SEQ. ID. NO. 14)

MYKTKCLREKLVFLKIFFPILYQFANYASFVDTAMTGQYNTMDLAGVSMATSIWNPFFTFLTGIVSALVPIIHHHLGRGKKEEV  
ASDFYQFYALGLSVLLGMVFLAPILNHIHGLEAAVAAVAVRYLWFLSIGIPLLLFSVIRSLDLSGLTKLSMYLMLLLPLNSG  
FNYLLIYGAFGVPELGGAGAGLGTSLAYWVLLGISVLVLFKQEKALHLEKRIPLNMDKIKEGVRLGLPIGGTVFAEVAIFSVMVGL  
IMAKFSPHIIASHQSAMNFSSLMYAFPMSSISSAMAIVSVYEVGAKRFDDAKTYIGLGRWTALIFAFTLTFYIFRGNVASLYGNDP  
KFIDLTVRFLTYSLFFQLADTFAAPLQGILRGYKDTVIPFYLGLLGYWGVAIPIVYAIZ

(SEQ. ID. NO. 15)

MSTLAKIEALLFVAGEDGIRVRQLAELLSLPPTGIQSSLGKLAQKYEKDPDSSLALIETSGAYRLVTKPQFAEILKEYSKAPINQSL  
RAALETLSIIAYKQPITRIEIDAIRGVNSSGALAKLQAFDLIKEDGKKEVLGRPNLYVTTDYFLDYMGINHLEELPVIDELEIAQESQ  
LFGRIEEDENQZ

(SEQ. ID. NO. 16)

MDTMISRRFRHLFEALKSLKRNGWMTVAAVSSVMITLTLVAIFASVIFNTAKLATDIENNVRVVVYIRKDVEDNSQTIEKEGQTVT  
NNDYHKVYDSLKNMSTVKSVTSSKEEQYEKLTIEIMGDNWKIFEGDANPLYDAYIVEANTPNDVKTIAEDAKKIEGVSEVQDGG  
ANTERLFLKASFIRVWGLGIAALLIFIAVFLISNTIRITHRSREIQIMRLVGAKNSYIRGPFLLEGAFIGLLGAIAPSVLVFIVYQIVYQS  
VNKSLVGQNLMSISPDLSPLMIALLFVIGVFIGSLGSGISMRRFLKIZ

(SEQ. ID. NO. 17)

MKKVRIFLALLFFLASPEGAMASDGTWQGGKQYLKEDGSQAANEWVFDTHYQSWFYIKADANYAENEWLKQGDDYFYLKSGG  
YMAKSEWVEDKGAFFYLLDQDGKMKRNAWVGTSYVGATGAKVIEDWVYDSQYDAWFIKADGQHAKEWLOIKGKDYFYS  
GGYLLTSQWINQAYVNASGAKVQGGWLFDDKQYQSWFYIKENGNYADKEWIFENGHYLYLKSGGYMAANEWIWDKESWFLK  
FDGKMAEKWVYDSSHQAWEYFYSGGYMTANEWIWDKESWFLKSDGKIAEKWVYDSSHQAWEYFYSGGYMTANEWIWD  
KESWFLKSDGKIAEKWVYDSSHQAWEYFYSGGYMAKNETVDGYQLGSDGKWLGGKTNNENAAAYQVVPVTANVYDSDGE  
KLSYISQGSVVWLDKDRKSDDKRLAITISGLSGYMKTEDLQALDASKDFIPYYESDGHRYHYVAQNASIPVASHLSDEMGKKY  
YSADGLHFDGFKLENPFLFKDLTEATNYSAEELDKVFSLLNNNLSLENKATFKEAEEHYHINALYLLAHSALSNWGRSKIAKD  
KNNFFGITAYDTPYLSAKTFDDVDKGILGATKWIKENYIDRGRFLGNKASGMNVEYASDPYWGEEKIASVMMKINEKLGGKZ

(SEQ. ID. NO. 18)

MKKVLQKYWAFAFVVIPLLLQAIFFYVPMFQGAFFYSFTNWTGLTYNYKFVGLNNFKLLFMDPKFMNAIGFTAIHAIAMVVGEIAL  
GIFARVLNSKIKGQTFFRWFFFPVLSGLTVLALIFKQVFNYGLPAIGNALHIEFFQTSLLGKVGAIFAAVFVLLWQGVAMPIIIFL  
AGLQSIPTTEITAARIDGATSKQVFWNIELPYLLPSVSMVFILALKGGLTAFDQVFAMTGGGPNNATTSLGGLLVNYAFKNNQFGY  
ANALAVILFLLIVVISIQLRVSKKFEIZ

(SEQ. ID. NO. 19)

MMKQDERKALIGKYILLILGSVLILVPLLATLFSFSPKPTKDIVDNFFGFPTNFTWDFNFRLLADGIGGYWNSVVTIVLSLLAVMIFIP  
MAAYSARNMSKRKAFTIMYTLILGIFVFPQVIMIPITVMMSKLGLANTFGLILLYLYAIPQTLFLYVGYIKISIPESLDEAAEIDGA  
NQFTTYFRIIFPMMKPMHATTMIINALWFWNDFMLPLLVLNRDSKMWTLPFLFYNYAGQYFNDYGPSFASYVVGIIISITIVYLFQ  
RHIISGMSNGAVKZ

(SEQ. ID. NO. 20)

MKSILQKMGEHMLLLFLSYSTVISILAQNWMLVASVGMFLFTIFFLHYQSILSHKFFRLILQFVLFSGSVLSAAFALEHFQIVKKF  
NYAFLSPNMQVWHQNAEVTFFNPNNYGIICFCIMIAFYLTFTTKLNLWKVFCVIAGFVNLFGNFTQNRATAFPAIIAGAIHYLTFTI  
KNWKAFLWSIGVFAIGLSFLFSSDLGVRMGTLDSSMEERISWDAGMALFKQNPFWGEGPLTYMNSYPRIHAPYHEHAHSYIDTI  
LSYGIVGTILLVLSSVAPVRLMMDMSQESGKRPIIGLYLSFLTVVAHGFIDLALFWIQSGFIFLLVMCSIPLEHRMLVSDMTDZ

(SEQ. ID. NO. 21)

MSKMDVQKIIAPMMKFVNMRGIIALKDGMALPLTVVGSFLIMGQLPFEGLNKSIASVFGANWTEPFMQVYSGTFAIMGLISCFS  
IAYSAYKNSGVEALPAGVLSVAFFILLRSSYPKQGEAIGDAISKVWFGGQGIIGAIIGLVVGSYITFFIKRKIVIKMPEQVPOAIAKQ  
FEAMIPAFVIFLSSMIVYILAKSLTNGGTFIEMIYSAIQVPLQGLTGSLYGAIGIAFFISFLWWFGVHGQSVVNGVVTALLSNLDAN  
KAMLASANLSLENGAHIVTQQFLDSFLILSGSGITFGLVVAMLFAAKSKQYQALGKVAAPFAIFNVNEPVVFGFIVMNPVMFVFPFI  
LVPLVAAVIVYGAIAATGFMQPFSGVTLWPSTPAILSGFLVGGWQGVITQLVILAMSTLVYFPFFKVQDRLAYQNEIKQSZ

(SEQ. ID. NO. 22)

MKKKDLVDQLVSEIETGKVRTLGIYGHGASGKSTFAQELYQALDSTTVNLTDPYITSGRHLVVPKDAPNQKV TASLPVAHELES  
LQRDILACRRVWMSZ

(SEQ. ID. NO. 23)

MKKRYLVLTALLALSAAACSQEKTKNEDGETKTEQTAADGTGVSQSQAQAQKKAEEVNVKGDYYSIQGKYDEIIVANKHYPLSK  
DYNPGENPTAKAELVKLIKAMQEAGFISDHYSGFRSYETQTKLYQDYVNQDGKAAADRY SARPGYSEHQTGLAFDVIGTDGDL  
VTEKAAQWLLDHAADYGFVVRYLKGKEKETGYMAEEWHLRYVGKEAKEIAASGLSLEEYGFEGGDYVDZ

(SEQ. ID. NO. 24)

MREPDFLNHFLKKGFKKHAVALALSGGLDSMFLFKVLSTYQKELEIELILAHVNHKQRIESDWEEKELRLAAEAELPIYISNFS  
GEFSEARARNFRYDFFQEVMMKKTGATALVTAHHADDQVETIFMRLIRGTRRLYLSGIKEKQVVEIEIIRPFLHFQKDKDFPSIFHED  
TSNQENHYFRNRIRNSYLPELEKENPRFRDAILGIGNEILDYDLAIAELSNNINVEDLQQLFSYSESTQVLLQTYLNRFPDLNLTKA  
QFAEVQQLKSKSQYRHPKNGYELIKEYQQFQICKISPADEKEDELVLHYQNQVAYQGYLFSFGLPLEGELIQIPVSRETSIHIRH  
RKTGDVLKNGHRKKLRLFLIDLKIPMEKRNSALHIEQFGEIVSILGIATNNLSKKTNDIMNTVLYIEKIDRZ

(SEQ. ID. NO. 25)

MRKFLIILLPSFLTISKVVSTEKEVVYSKEIYILSQSDFGIYFREKLSSPMVYGEVPVYANEDLVESGKLTPKTSFQITEWRLNK  
QGIPVFKLSNHQFIAADKRFYLDQSEVTPTIKKVWLESDFKLYNSPYDLKEVKSSLSAYSQVSIDKTMFVEGREFLHIDQAGWVAK  
ESTSEEDNRMSKVQEMLSEKYQKDSFSIYVQKLTGKEAGINQDEKMYAASVLKLSYLYYTQEKINEGLYQLDITVYVSAVNDP  
PGSYKPEGSGSLPKKEDNKEYSLKDLITKVSKESDNVAHNLLGYISNQSDATFKSKMSAIMGDDWDPKEKLISKSMAGKFMEAI  
YNQNGFVLES�TKTDFDSQRIAKGVSVKVAHKIGDADEFKHDTGVVYADSPFILSIFTKNSDYDTISKIAKDVEYEVKZ

(SEQ. ID. NO. 26)

MKKQNNGLIKNPFLWLLFIFLVTGFQYFYSNNSSGGSQQINYTELVEITDGNVKELTYQPNGSVIEVSGVYKNPKTSKEETGIQF  
FTPSVTKVEKFTSTILPADTTVSELQKLATDHKAQEVTVKHESSSGIWINLLVSVIPFGILFFFLFSMMGMNMGNGRNPMSFGRSKA  
KAANKEDIKVRFSVAGAEEEKQELVEVVEFLKDPKRFTKLGARIPAGVLLLEGPPGTGKTLAKAVAGEAGVPFFSISGSDFVEMF  
VGVGASRVRSLEDAKKAAPAIIFIDEIDAVGRQRGVGLGGGNDEREQTLNQLLIEMDGFEGNEGIIVIAATNRSVDLDPALLRPGR  
FDRKVLVGRPDVKGREAILKVHAKNKPLAEDVDLKLVAQQTGPGFVADLENVLEAALVAARRNKSIIASDIDEAEDRVIAGPS  
KKDKTVSQKERELVAYHEAGHTIVGLVLSNARVVHKVTIVPRAGGYMIALPKEDQMLLSKEDMKEQLAGLMGGRVAEEIIFN  
VQTTGASNDFEQATQAMARAMVTEYGMSEKLGVPVQYEGNHAMLAGQSPQKSISEQTAYEIDEVRSLLNEARNKAAEIIQSNRETH  
KLIAEALLKYETLDSTQIKALYETGKMPEAVEEESHALSDEVKSKMNDEKZ

(SEQ. ID. NO. 27)

MKRSSLLVRMVISIFLVFLILLALVGTFFYQSSSAIEATIEGNSQTTISQTSHFQSYIKKLETTSTGLTQQTDVLAAYENPSQDKVEG  
IRDLFILTILKSDKDLKTVVLVTKSGQVISTDDSVQMKTSDDMAEDWYQKAIHQGAMPVLTLPARKSDSQWVISVTQELVDAKGA  
NLGVLRLDISYETLEAYLNQLQLGQGFIFIENHEFVYHPQHTVYSSSSKMEAMKPYIDTGGQYTPGHKSYVSQEKIAGTDWTV  
LGVSSEKLDQVRSQLLWTLGASVTSLLVCLLVWFSKRWIAPLKDRLRETMLLEIASGAQNLRakevGAYELREVTRQFNAMLD  
QIDQLMVAIRSQEETTRQYQLQALSSQINPHFLYNTLDTIWMAEFHDSQRVVQVTKSLATYFRLALNQGDCLCLSDENHVRQYL

FIQKQRYGDKLEYEINENVAFDNLVLPKLVLPQPLVENALYHGIKEKEQGHIKLSVQKQDSGLVIRIEDDGVGFQDAGDSSQSQLK  
RGGVGLQNVQDQRLKLHFGANYHMKIDSRPQKGTKEIYINRIETSZ

(SEQ. ID. NO. 28)

MKRSSLLVRMVISIFLVFLILLALVGTFFYYQSSSSAIEATIEGNSQTTISQTSHFISYIKKLETTSTGLTQQTDVLA YAENPSQDKVEG  
IRDLFTILKSDKDLKTVLVTKSGQVISTDDSVQMKTSDDMMAEDWYQKAIHQGAMPVLTTPARKSDSQWVISVTQELVDAKGA  
NLGVLRLDISYETLEAYLNQLQLGQGGFAFIINENHEFVYHPQHTVYSSSSKMEAMKPYIDTGGQYTPGHKSYSVQEKIAGTDWTV  
LGVSSLEKLDQVRSQLLWTLGASVTSLLVCLCLVWFSLKRWIAPLKDRLTMEIASGAQNLRAKEVGAYELREVTRQFNAMLD  
QIDQLMVAIRSQEETTRQYQLQALSSQINPHFLYNTLDTIIMWMAEFHDSQRVVQVTKSLATYFRLALNQGKDLICLSEINHVRQYL  
FIQKQRYGDKLEYEINENVAFDNLVLPKLVLPQPLVENALYHGIKEKEQGHIKLSVQKQDSGLVIRIEDDGVGFQDAGDSSQSQLK  
RGGVGLQNVQDQRLKLHFGANYHMKIDSRPQKGTKEIYINRIETSZ

(SEQ. ID. NO. 29)

MFFKLLREALKVQKVRSKILFTIFIVLVFRIGTSITVPGVNANSLNALSGLSFLNMLSLVSGNALKNFSIFALGVSPYITASIVVQLLQ  
MDILPKFVWGKQGEVGRRLNQATRYIALVLAFAVQSIGITAGFNTLAGAQLIKTALTQPQVLTIGIILTAGSMIVTWLGEQITDKG  
YNGVSMIIFAGVSSIPEMIQGIYVDYFVNVPSSRITSSIIFVILIITVLLIYFTTYVQQAQYKIPIQYTKVAQAGAPSSSYLPLKVNPAQ  
VIPVIFASSITAAPAAIQLFSATGHDWAWVRVAQEMLATTSTPTGIAMYALLIILFTFFYTFVQINPEKAAETYKRVPISMEFVLVK  
VQKNICLNFFVVLQLLVPSSLVZ

(SEQ. ID. NO. 30)

MDIRQVTETIAMIEEQNFDIRTITMGISLLDCIDPDINRAAEKIYQKITTKAANLVAVGDEIAAELGPIVKNRVSVPISLIGAATDAT  
DYVVLAKALDKAAKEIGVDFIGGFSALVQKGYQKGEILINSIPRALAETDKVCSSVNIGSTKSGINMTAVADMGRRIKETANLSD  
MGVAKLVVFANAVEDNPFMAGAFHGVGEADVINVGVSPPGVVVKRALEKVRGQSFVVAETVKKTAFAKITRIGQLVGMASERL  
GVEFGIVDLSLAPTPAVGDSVARVLEEMGLETVGTHGTTAALALLNDQVKKGGVMACNQVGGLSGAFIPVSEDEGMIAAVQNGS  
LNLEKLEAMTAICSVLDMIAIPEDTPAETIAAMIADEAAIGVINMKTTAVRIIPKKEGDMIEFGGLLTAPVMKVNGASSVDFISR  
GGQIPAPIHSFKNZ

(SEQ. ID. NO. 31)

MTQIIDGKALAAKQGLAEKTAKEETGLVPLGVVILVGDNPASQVYVRNKERSALAAGFRSEVVRVPETITQEELDLIAKYN  
QDPAWHGILVQLPLPKHIDEEAVLLAIDPEKDVGDGHPNLNMGRWLSGHPVMPSTPAGIMEMFHEYGIDLEGKNAVVGIRSNIVGK  
PMAQLLLAKNATVTLTHSRTHNLSKVAADKADILVVAIGRAKFVTAADFVKPGAVVIDVGMNRDENGKLCGDVDYEA VAPLASHIT  
PVPGGVGPMTITMLMEQTYQAALRTLDRKZ

(SEQ. ID. NO. 32)

MSKFNRHILVVLDSVGIGAAPDANNFVNAGVDPDGASDTLGHISKTVGLNVPNMAKIGLGNIPRETPLKTVAAESNPTGYATKLEEV  
SLGKDTMTGHWIEMGLNITEPFDTFWNGFPPEILTKEIEFSGRKVIREANKPYSGTAVIYDFGPRQMETGELIITYSADPVLQIAAHE  
DIPLDELYRICEYARSITLERPALLGR IARPYVGEPPGNFRTANRRDLAVSPFFPTVLDKLEAGIDTYAVGKINDIFNAGINHDM  
GHNKSNSHGIDTLLKTMGLAEFEKGFSTNLVDFDALYGHRRNAHG YRDCLHEFDERLPEIIAAMRENDLLLITADHGNDPTYAG  
TDHTREYIPLLAYSPAFKNGNLIPLVGHFADISATVADNFGVETAMIGESFLDKLVZ

(SEQ. ID. NO. 33)

MFISISAGIVTFLTLVEIPAFIQFYRKAQITGQQMHEDVKQHQA KAGTPTMGGLVFLITSVLVAFFFALFSSQFSNNVGMILFILVLY  
GLVGFLDDFLKVFVRKINEGLNPKQKLAQLLGGVIFYLYFYERGGDILSVFGYPVHLGFFYIFFALFWLVGFSNAVNLTGVDGLASI  
SVVISLSAYGVIA YVQQMDILLVILAMIGGLLGGFFIHNHPKPAKVFMDGVGSLALGGMALAAISMAHJQEWTLIIIGIVYVFETTSVM  
MQVSYFKLTGGKRIFRMTPVHHHFELGGLSGKGNPWSWKVDFFFWGVGLLASLLTLAILYLMZ

(SEQ. ID. NO. 34)

LFKKNKDILNIALPAMGENFLQMLMGMVDSYLVLAHLGLIAISGVSVAGNIITTYQAIFIALGAAISSVISKSIGQKDQSKLAYHVTEA  
LKITLLLSFLLGFLSIFAGKEMIGLLGTERDVAESGGYLSLVGGGSIVLLGLMTSLGALIRATHNPRLPYVSFLSNALNLFSSLAIFV  
LDMGIAGVAVGTIVSRVLVGLVILWSQLKLPYKPTFGLDKELLTALPAAGERLMMRAGDVVIALVVSFGTEAVAGNAIGEVLT  
QFNYPMPAFGVATATVMLLARAVGEDDWKRVASLSKQTFWLSLFLMLPLSFSIYVLGVPLTHLYTTDSLAVEASVLVTLFSLGTP  
MTTGTVIYTA VWOGLGNARLPFYATSIGMWICIRIGTG YLMGIVLWGWLPGI WAGSLDNGFRWFLR YRYQRYMSLKGZ

(SEQ. ID. NO. 35)

MQTQEKHSQAAVLGLQHLLAMYSGSILVPIMIALGYSAEQLTYLISTDIFMCGVATFLQLQLNKYFGIGLPVVLGVAFQSVAPLI  
MIGQSHGSGAMFGALIASGIYVVLVSGIFSKVANLFPISIVTGSVITIGLTLIPV AIGNMGNNVPEPTGQSLLAAITVLIILLINIFTKG  
FIKISILIGLVGTAAIATMGLVDFSPVA VAPLVHVP TPLYFGMPTFEISSIVMMCIIATVSMVESTGVYALSDITKDPIDSTRLRNG  
YRAEGLAVLLGGIFNTFPYTGFQSNVGLVKLSGIKKRLPIYYAAGFLVLLGLLPKFGALAQIIPSSVLGGAMLVMFQFVSIQGMQIL  
ARVDFANNEHNFLIAAVSIAAGVGLNNSNLFVSMPTAFQMFFSNGIVVASLLAIVLNAVLNHKKKZ

(SEQ. ID. NO. 36)

MKDRIKEYLQDKGKVTVNDLAQALGKDSSKDFRELKTLISLMERKHQIRFEEDGSLTLEIKKKHEITLKGIFHAHKNNGFGFVSLEGE  
EDDLFVKGNDVNYAIDGDTVEVVIKKVADRNGKTA AEAKIIDILEHSLTTVVGGIVLDQEKPKYAGYIRSKNQKISQPIYVKKPAL  
KLEGTEVLKVFDIKYPSKKHDFVAVSLDVVGHSTDVGDVLELVLESMDIVSEFPEAVVKEAESVPDAPSQKDMEGRLDLRDEITF  
TIDGADAKDLDDAVHIKALKNGNLEFGVHIADVSYYVTEGSALDKALNRATSVYVTD RVPMLPERLSNGICSLNPQVDRLTQS  
AIMEIDKHGRV VNYTITQTVIKTSFRMTYSDVNDILAGDEEKREYH KIVSSIELMAKLHETLENMRVKRGALNFDTNEAKILVDK  
QGKPVJIVLRQRGIAERMIESFMLMANETVAEHFSKLDLPFIYRIHEEPKAEKVQKFIDYASSFGRLRIYGTASEISQEALQDIMRAVE  
GEPYADVLSMMLLRSMQQARYSEHNHGHYGLAADYYTHFTSPIRRYPDLLVHRMIRDYGRSKEIAEHFEQVIPIATQSSNRERRA  
IEAEREVEAMKKAEMYEEYVGEEDYDAVSSIVKFGFLVELPNTVEGLIHITNLPEFYHFNERDLTLRGEKSGITFRVGGQIRIRVERA  
DKMTGEIDFSFVPSEFDVIEKGLKQSSRSRGRDRSNRRSDKKEDKRKSGRSNDKRKHSQDKKKKKGKPPFYKEVAKKGAKHGKG  
RGKGRRTKZ

(SEQ. ID. NO. 37)

MGTGTGTHIDLILIVYLLAVLVAGIYFSKKEMKGKEFFKGDGSPVWYVTSVSIFATMLSPISFLGLAGSSYAGSWILWFAQLGMVV  
AIPLTIRFILPFIARIDIDTAYDYLDKRFNSKALRIISALLFIYQLGRMSIIMYLP SAGLSVLTGIDINILILMGVVAIVYSYTGGKLSVL

WTDFIGQVILISGVVLAFLVLIANIKGGFGAVAETLANGKFLAANEKLFDPNLLSNSIFLIVMGSGFTILSSYASSQDLVQRFTTTQNI  
KKNLKMFLTNGVLSLATATVFFYLIGTGLYVYFQVQNAADSAASNIPQDQIFMYFIAIYQLPVGITGLILAAIYAASQSTISTGLNSVATS  
WTLDIQDVISKNMDSNRRTKIAQFVSLAVGLFSIGVSIVMAHSDIKSA YEWFNFSFMGLVLGLLGGVFLGFVSKKANKQGAYAAALI  
VSTIVMVIKIFYLPPATAVS YWAYSLSISVS VSGYIVSVLTGNKVSAPKYTTIHDI TEIKADSSWEVRHZ

(SEQ. ID. NO. 38)

MKFSKKYIAAGSAVIVSLSLCAYALNQHRSQENKDNRRVSYVDGSSQKSENLTDPQVSQKEGIQAEQIVIKITDQGYVTSBGDH  
YHYNGKVYPYDALFSEELLMKDPNYQLKDADIVNEVKGGYIHKVDGKYVYVYLDAAHADNVRTKDEINRQKQEHVKDNEKVNS  
NVAVARSQGRYTTNDGYVFNPAIIEDTGNAYIVPHGGHYHYIPKSDLSASELAAAKAHLAGKNMQPSQLSYSSTASDNNTQSV  
KGSTSKPANKSENLSLLKELYDSPAQRYSSESDGLVFDPAKISRTPNGVAIPHGDHYHFIYPYKLSALEEKIARMVPISGTGSTVST  
NAKPNEVVSLSGLSSNPSSLTTSKELSSASDGYIFNPKDIVEETATAIYVRHGDHFIYPKSNQIQPTLPNNSLATPSPSLPINPGTS  
HEKHEEDGYGFDANRIIAEDESGFVMSHGDHNYHFFKKDLTEQIKVRKNIZ

(SEQ. ID. NO. 39)

MKKRAIVAVIVLLIGLDQLVKSIVYQQIPLGEVRSWIPNFVSLTYLQNRGAAFSILQDQQLLFAVITLVVIGAIWYLHKHMEDSF  
WMVLGLTLIAAGLGNFIDRVSQGFVVD MFHLDFINFAIFNVADS YLTVGVIIILLIAMLKEEINGNZ

(SEQ. ID. NO. 40)

MNTNLASFIVGLIENDRIFYVQKDGQTYALAKEEGQHTVGD TVKGFA YTD MKQKLR LTTLEVTATQDQFGWGRVTEVRKDLG  
VFVD TGLPDKEIVVSLDILPELKE LWP KKG DQLYIRLEV DKKDRIWGLLAYQEDFQRLARPA YNNMQNQNWP AIVYRLKLSGTFV  
YLPENNM LGGFIHPSERYAEPRLGQVLDARVIGFREVDRTLNL S LKPRSFEMLEND AQMILTYLESNGGFMTLNDKSSPDDIKATFGI  
SKGQFKKALGGLMKAGKIKQDQFGTELIZ

(SEQ. ID. NO. 41)

MKDVSLFLLKKVFKSRLNWIVLALFVSVLGVTFYLSQ TANS HSLESRLSRIAANERAINENEEKLSQMSDTSSEYQFAKNNLD  
VQKNLTRKTEILTLLKEGRWKEAYYLQWQDEEKNEYFVSN DPTASPLKMGVD RERKIYQALYPLNIKAHTLEFPTHGIDQIVWI  
LEVIIPSLFVVAIIFMLTQLFAERYQNHLDTAHLYPVSKVTF AISSLG VGVGYVT VLFIGICGFSFLVGLSISGFGQLDYPYPIYSLVNQ  
EVTIGKIQDVLFPGLLLAFLA FIVIVEVYLYA YFFKQKMPVFLSLIGIVGLLFGIQT IQPLQRIAHLPFYLR SVEILSGRLPKQIDNV  
DLNWSMGMVLLPCLIFLLGILFIERWGSSQKKEFFNRZ

(SEQ. ID. NO. 42)

MMKFILDIVSTPAILVALIAILGLVLQKKLPDIKGGIKTFVGFV VSGGAGIVQNSLNPFGTMFEHAFHLSGVVPNEAIVAVALT  
TYGSATAMIMFAGMVFNILARFTRFKYIFLTGHHTLYMACMIAVILSVAGFTSLPLILLGLLALGIIMSISPAFVKYMYVQLTGNDK  
VALGHFSSLGYWLSGFTGSLIGDKSKSTEDIKFPKSLAFLRDS TVSITLSMAVYIIV AIFAGSEYIEKEISSGTSGLVYALQLAGQFAA  
GVFVILAGVRLILGEIVPAFKGISERLVPNSKPA LDCPIVYTYAPNAV LIGFISSFVGGVLSMVIMIASGTVVILPGVVPHPFCGATAG  
VIGNASGGVRGATIGAF LQGISFLPVLMPVLGGLGFQGSTFSDADFLGSLGILGMLNQFGSQAGIVIGLV LILAVMFGVSFIKKPS  
ATEEZ

(SEQ. ID. NO. 43)

MIKTFLSALSIVLFSIPIITYSFFPSSNLNIWLSTQPI LAQIYAFPLATATMAA ILSFLFFLSFYKKNKQIRFYSGILLLLSLILLFGTDK  
TLSSASNKTKTLKLV TNVANQIEAQHIERIFSHFDADMAIFPELATNIRGEQENQRIKLLFHQVGLSMANYDIFTSPTNSGIAPVT  
VIVKKS YGFY TEAKTFHTTRFGTIVLHSRKQNIPI DIALHTAPPLPGLMEIWKQDLNIIHNQLASKYPKAIIAGDFNATMRHGALAKI  
SSHRDALNALPPFERGTWNSQSPKLFNATIDHILLPKNHYYVKDLDIVSFQNSDHRCIFTEITFZ

(SEQ. ID. NO. 44)

MNPIQRSWAYVSRKRLRSFILFLILLVLLAGISACLTLMKSNKTVESNLYKSLNTSFSIKKIENGQTFKLSDLASVSKIKLENV SPEL  
ETVAKLKDEAVTGEQSVERRDLSAADNNLVSLTALEDSSKDVTFTSSAFNLKEGRHLQKGD SKKILIH EELAKKNGLSLHDKIGL  
DAGQSESGKGQTVEFEIIGIFSGKKQEKFTGLSSDFSENQVFTDYESSQTLLGNSEAQVSAARFYVENPKEMDGLMKQVENLALEN  
QGYQVEKENKA FEQIKDSVATFQFTLTIFLYGMLIAGAGALILVLSLWLRERVYEVGILLALGKGKSSIFLQFCLEVVLVSLGALLP  
AFVAGNAITTYLLQTLASGDQASLQDTLAKASSLTSILSFAESYVFLVLLSCLSVALCFLFLFRKSPKEILSSISZ

(SEQ. ID. NO. 45)

MLHNAFAYVTRKFFKSIVIFLIILLMASLSLVGLSIKGATAKASQETFKNITNSFSMQINRRVNQGT PRGAGNIKGEDIKKITENKAIE  
SYVKRINAIGDLTG YDLIETPETKKNLTADRAKRGSSLMITGVNDSSKEDKFVSGSYKLVEGEHLTNDKDKILLHKDLAAKHG  
WKVGDKVKLDSNIYDADNEKGAKETVEVTIKGLFDGHNKS AVTYSQELYENTAITDIHTAAKLYGYTEDTAIYGDATFFVTADK  
NLDDVMKELNGISGINWKS YTLVKSSSNYPAL EQSISGMYKMANLLFWGSLSFSVLLLALLSLWINARRKEVGILLSIGLKQASIL  
GQFITESILIAIPALVSAYFLANYTARAIGNTVLANVTS GVAKQASKAAQASNLGGGA EVDGFSKTLSSLDISIQTSDFIHFVLA LVV  
VLVMALASSNLLRKQPKELLLDGEZ

(SEQ. ID. NO. 46)

MSQDKQMKAVSPLLQRVINISSIVGGVGLSIFCIWAYQAGILQSKETLSAFIQQAGI WGPPLFIFLQILQTVVPIPGALTSVAGVFIYG  
HIIGTIYNYIGIVIGCAIIFYLVRLYGAA FVQSVVSKRTYDKYIDWLDKGNRFRDRFFIMMIWPISPADFLCMLAALT KMSFKRYMTII  
ILTKPFTLVVYTYGLTYIIDFFWQMLZ

(SEQ. ID. NO. 47)

MRNMWVVIKETYLRHVESWSFFFMVISPFLFLGISVGIGHLQGSSMAKNNKVAVVTTVPVSAEGLKNVNGVNFYDKDEASAKEAI  
KEEKLKGYLTIDQEDSVLKAVYHGETSLENGIKFEVTGTLNELQNLRSTASLSQEKEKRLAQTIQTEKIDEAKKFIQTIAA  
GALGFFLYMITYAGVTAQEVASEKGT KIMEVV FSSIRASHYFYARMMALFLVILTHIGIYVVGGLAAVLLFKDLPFLAQSGILDH  
LGD AISLNTLLFILISLFMYVVLAAFLGSMVSRPEDSGKALSPLMILIMGGFFGV TALGAAGDNLLKIGSYIPFISTFFMPFRTINDY  
AGGA EAWISLAITVIFAVVATGFIGRMYASLVLTQD DDLGIWKTFKRALS YKZ

(SEQ. ID. NO. 48)

MTETIKLMKAHTSVRRFKEQEIPQVDLNEILTAAQMASSWKNFQSYSVIVVRSQEKDALYELVPQEAIRQSAVFLLFVGD LNRAE  
KGARLHTDTFQPGVEGLLISSVDAALAGQNALLAAESLG YGGV IIGLVRYKSEEV AELFNLPDYTYSVFGMALGVPNQHHDMPK



RLPLENVVFEIEYQEOSTEAIQAYDRVQADYAGARATTSWSQRLAEQFGQAEPSSSTRKNLEQKLLZMLKLLIAIVGTNSKRSTNR  
QLLQYMQKHFTDKAEIELVEIKAIPVFNKPADKQVPAEILEIAAKIEEADGVIIIGTPEYDHSIPAVLMSALAWLSYGIYPLLNKIMIT  
GASYGTLGSSRAQLQLRQILNAPEIKANVLPDEFLLSHSLQAFNPSGDLVDLDVIKKLDAIFDDFRIFVKITEKLRNAQELLRKDAED  
FDWENLZ

(SEQ. ID. NO. 49)

MNTYQLNNGVEIPVLGFGTFKAKDGEEAYRAVLEALKAGYRHIDTAIYQNEESVGQAIKDSGVPREEMFVTTKLWNSQQTYEQ  
TRQALEKSIEKGLDLYLDLYLIHWPNPKPLRENDWKTNAEVWRAMEDLYQEGKIRAIQVSNFLPHHLDALLETATIVPAVNQV  
RLAPGVYQDQVVAYCREKGILLEAWGPFGQGEFDSKQVQEIAANHGKSVAQIALAWSLAEGFLPLPKSVTTSRIQANLDCFGIEL  
SHEERETLKTIQVQSGAPRVDDVDFZ

(SEQ. ID. NO. 50)

MRCKMLDPDIAIQLGPLAIRWYALCIVTGLILAVYLTMTKEAPRKKIIPDDILDFILVAFPLAILGARLYYVIFRFDYYSQNLGEIFAOWN  
GGLAIYGGITGALVLYIFADRKLINTWDFLDIAAPSVMAIQSLGRWGNFFNQEAYGATVDNLDYLPGFIRDQMYIEGSYRQPTFL  
YESLWNLGFLALIFRRKWKSLRRGHITAFYLIWYGFGRMVIEGMRDLSLMFFGFRVSQWLSVVLIGLIGMIVYQNRKKAPYYIT  
EENZ

(SEQ. ID. NO. 51)

MGKLSILLGTVSGAALALFLTSDKGKQVCSQAQDFLDDLREDPEYAKEQVCEKLTVEKQATDFVLKTKEQVESGEITVDSILAQ  
TKSYAFQATEASKNQLNNLKEQWQEKAEALDDSEEIVDITEEZ

(SEQ. ID. NO. 52)

MKTKLIFWGSMLFLLSILLSITILAWIFYPMEIQWNLNLTNRVYLKPETIQYNFHILMNYLTNPFSQVLQMPDFRSSAAGLHHFAVV  
KNLFLVLQVALVTLPSFYVFNVRIVKKDFLSLYRKSLLALVVLPMIGLGGVIGFDQFFTLFHQILFVGDDTWLFDPAKDPVIMI  
LPETFLLHAFLLFFALYENFFGYLYLKSRRKZ

(SEQ. ID. NO. 53)

MTYHFTEEYDIIVIGAGHAGVEASLAASRMGCKVLLATINIEMLAFCPCNPISIGSSAKGIVVREVDALGGEMAKTIDKTYIQMKML  
NTGKGPVAVRALRAQADKELYSKEMRKTVENQENLTLRQTMIDEILVEDGKVVGVRTATHQEYAAKAVIVTTGTALRGEIIGDLK  
YSSGPNHSLASINLADNLKELGLEIGRFGTGTTPRVKASSINYDVTEIQPGDEVNPHFSYTSRDEDYVKDQVPCWLTYTNGTSHEIIQ  
NNLHRAPMFTGVVKGVGPRYCPISIEDKIVRFADKERHQLFLEPEGRNTEEVYVQGLSTSLPEDVQDRDLVHSIKGLENAEMMRGTGY  
AIEYDMVLPHQLRATLETKKISGLFTAGQNTGTSYEEAAGQGIIAGINAALKIQGKPELILKRSDDGYIGVMIDDLVTKGITIEPYRL  
TSRAEYRLILRHDNADMRLTEMGREIGLVDDERWARFEIKKNQFDNEMKRLDSIKLKPVKETNAKVEEMGFKPLTDAVTAKEFLR  
RPEVSYQDVAFIGPAAEDLDDKIELIETIEIKYEGYISKAMDQVAKMKRMEEKRIPANIDWDDIDSIAEARQFKLINPETIGQAS  
RISGVNPADISILMVYLEGKNRSISKTLQSKZ

(SEQ. ID. NO. 54)

MTKQVLLVDDEEHILKLLDYHLSKEGFSTQLVTNGRKALALAEETPFDFILLDIMLPQLDGMVECKRLRAKGVKTPIMMVSASD  
EFDKVLALLEGADDYLTKPFSPRELLARVKAVALRRTKGEQEGDDSDNIADDSWLFGLTKVYPERHEVYKANKLLSLTPKEFESDK  
NPFEEVFKVSKVTAQZ

(SEQ. ID. NO. 55)

MTTFKDGFLWGGAVAAHQLEGGWQEGGKGISVADVMTAGRHGVAIREITLGVLEGKYYPNHEAIDFYHRYKEDIALFAEMGFKC  
FRTSIAWTRIFPKGDELEPNEEGLQFYDNLFDECLKNGIEPVITLSHFEMPYHLVTEYGGWKNRKLIDFFARFAEVVFKRYKDKVK  
YWMTFNEINNQANYQEDFAPFTNSGIVYEEGDNREAIMYQAAHYELVASARAVKIGHEINPDFQIGCMIAMCPIYPVTCNPKDILM  
AMKAMQKRYFYFADVHVLGKYPEHIFKYWERKGISVDFTAQDKEDLLGGTVDYIGFSYMSFAIDSHRENNPYFDYLETEDLVKN  
NYVKASEWEWQIDPEHRYALNWFTDHYHLPLFIVENGFQIDQVAADGMVHDDYRIEYLGAIHREMKAUVEDGVDLMGYTP  
WGCIDLVSAGTGEMRKRYGFIYVDKDDNGKGSYNRSPKKSFGWYKEVISSNGESVEZ

(SEQ. ID. NO. 56)

MDQQNGLFGFLENHVMGPMGKLAQFKVVRAITAAGMAAVPFTIVGSMFLVFSILPQAFSFWPIVADIFSASFDFKFTSLYMVANYA  
TMGSLSLYFVLSLAYELTKIYAAAAEELNMNPLNGALLALMAFVMTVPQIIFDGGMMKTVTSLKEGAVIADGWAMGNVVARFGTT  
GIFTAIIAIVTVLIYRMCVKHNWVIKMPAEPVPEGVSRGFTALVPGFVAVFVIFINGLLVAMGTDIFKVIAPFGFVSNLTNSWIGL  
MIIYLLTQLLWIVGIHGANIVFAFVSPIALANMAENAAGGHFAVAGEFSNMFVIAGGSGATLGLCLYIAFASKSEQLKAIGRASVVP  
ALFNINEPLIFGLPIIYNPALAIPFILAPMVTATIYYVANSLNFIKPIIAQVPWPPTVGIGAFGLTADLRAVLVALVCAFAFLVYLPFIR  
VYDQKLKVEEQGIZ

(SEQ. ID. NO. 57)

MKKFYVSPFIPILVGLIAFGVLSTFHIFVNNNLLTVLILFLVGGYVFLFKKLKVHYTRSDVEQIYVNHQAEESLTALLEQMPVGVM  
KLNLSSEGEVWFNPNYAEILITKEDGDFLEAVQTHKASVGNPSTYAKLGEKRYAVHMDASSGVLYFVDVSREQAITDELVTSRPV  
IGIVSDNYDDLEDETSEDISQINSFVANFISEFSEKHMMFSRRVSMDFYLFDTYTVLEGLMNDKFSVIDAFREESKQRQLPLTSL  
MGFSYGDGNHDEIGKVALNLAELVRGGDQVVVKENDETKNPVYFGGSAASIKRTRTRTRAMMTAISDKIRSVDQVVFVGHK  
NLDMDALGSAVGMQLFASNVIENSYALYDEEQMSPDIERAVSFIEKEGVTKLLSVKDAMGMVTNRSLLILVDHSKTALTLSKEYF  
DLFTQTVIDHHRDQDFPDNAVITYIESGASSASELVITAFQNSKKNRLSRMQASVLMAGMMLDTKNFTSRVTSRTFDVASYL  
RTRGSDSIAIQEIAATDFEEYREVNELILQGRKLGSDVLIAEAKDMKCYDTVVISKAADAMLAMSGIEASFVLAKNTQGFISISARS  
SKLNVQRIMEELGGGGHFNLAQAQIKDVTLSAGEKLTETVLNEMKEKEKEEZ

(SEQ. ID. NO. 58)

MKEKNMWKELLNRAGWILVFLAVLLYQVPLVVTSLTLKEVALLQSGILVAGLSIVVLALFIMGARKTKLASFNFSFFRAKDLAR  
LGLSYLVIVGNSILGSILLQLSNETTANQSQINDMVQNSSLISSFFLLALLAPICEILCRGIVPKKIFRGKENLGFVVGTVFALLHQP  
SNLPSLLIYGGMSTVLSWTAYKTQRLEMSILLHMIVNGIAFCLLALVVMISRTLGISVZ

(SEQ. ID. NO. 59)

MKEKNMWKELLNRAGWILVFLAVLLYQVPLVVTSLTLKEVALLQSGLVIVAGLSIVVLLALFIMGARKTKLASFNFSFFRAKDLAR  
LGLSYLVIVGNSILNGLQLSNETTANQSQINDMVQNSLSSIFLLALLAPICEILCRGIVPKKIFRGKENLGFVVGTVFALLHQ  
SNLPSLLYGGMSTVLSWTAYKTQRLEMSILLHMIVNGIAFCLLALVIMSRTLGISVZ

(SEQ. ID. NO. 60)

MDTQKIEAAVKMIEAVGEDANREGLQETPARVARMYQEIFSGLGQTAEHLSKSFEIIDDNMVVEKDIFHTMCEHHFLPFYGRA  
HIAIYIPDGRVAGLSKLARTVEVYSKKPQIERLNIEVADALMDYLGAKGAFVIVIEAEHMCMSMRGVRKPGTATLTTVARGLFETD  
KDLRDQAYRLMGLZMKDLFLKRRKQAFRKECLGYLRVYVNDHFVLLVLLGLFLAYQYSQLLQHFPENHWPIILLFVGITSVLLLLLW  
GGTATYMEAPDKLFLLVGEEIKLHLKRQTGISLVFWLQVTLFLLFAPLFLAMGYGLPVFLLYVLLLVGVGKYFHFQKASKFFT  
ETGLDWDYVISQESKRKQVLLRFFALFTQVKGISNSVKRRAYLDFILKAVQKVPQKIWNLYLRSYLRNGDLFALSRLLLLSLLA  
QVFIEQAWIATAVVVLFNLYLLLFQLLALYHAFDYQYLTQLFPLDKGQKEKGLQEVVRGLTSFVLLVELLVGLITFQEKALLALLG  
AGLVLLVLYLPYQVVKRQMQDZ

(SEQ. ID. NO. 61)

MRKSIVLAADNAYLIPLLETTIKSVLYHNRDVDFYILNSDIAPEWFKLLGRKMEVNSTIRSVHIDKELFESYKTGPHINYASYFRFFA  
TEVVESDRVLYLDSDIIVTGELATLFEIDLKGYSIGAVDDVYAYEGRKSGFNTGMLLMDVAKWKEHSIVNSLLELAAEQNQVVHL  
GDQSLNIYFEDNWLALDKTYNYMVGIDYHLAQECERLDDNPPTIVHYASHDKPWNTYSISRLRELWWVYRDLWDSEIAFORSD  
LNYFERSNQSKQVMLVTSADIKHLEYLVQRLPDWHFHLAAPCDCSEELTSLSQYTNVTYQNVLHSRIDWLLDDSIYLDINT  
GGEVFNVTTRAQESGKKIFAFDITRKSMDDGLYDGIFSVRPPDDLVRMKNIEIEZ

(SEQ. ID. NO. 62)

MTKIYSSIAVKKGLFTSFLFIYVLGSRILPFVDLNTKDFLGGSTAYLAFAAALTGGNLRSLSIFSVGLSPWMSAMILWQMFSFSKRL  
GLTSTSIEIQDRRKMYLTLIAVQLSLAVSLRPLVQSSYSAILVVLMTILLIAGTFFLVWLSDLNASMGIGGSIVILLSSMVLNIPQDV  
LETFTQTVHIPTGIIVLLALLTLVFSYLLALMYRARYLVPVNKIGLHNRKRYSYLEIMLNPAAGGMPYMYVMSFSLVPAYLFILLGFIF  
PNHSGLAALSKEFMVGKPLWVYVYISVLFSLFIIFAFVTMNGEEIADRMKKSSEYIYGIYPGADTSRFINRLVLRFSVIGGLFNVIMA  
GGPMLFVLFDEKLLRLAMIPGLFMMFGCMIFTIRDEVKALRLNETYRPLIZ

(SEQ. ID. NO. 63)

MSSLSDDQELVAKTVEFRQLSEGESLDDILVEAFVVRREADKRILGMFPYDVQVMGAIVMHYGNVAEMNTGEGKTLTATMPVYL  
NAFSGEGVMVVTNPNEYLKSRDAEEMGQVYRFLGLTIGVPFTEDPKKEMAKEEKLIYASDIYTTNSNLGFDYLDNDLASNEEGKF  
LRPFNYVIIDEIDILLDSAQTPLIAGSPRVQSNYYAIIDTLVTTLVEGEDYIFKEEKEEVWLTTKGAKSAENFLGIDNLYKEEHASF  
ARHLVYAIRAHKLFTKDKDYIIRGNEMVLVDKGTGRLMEMTKLQGGHLQAIEAKEHVKLSPETRAMASITYQSLFKMFNKISGMT  
GTGKVAEKEFIETYNMSVVRIPTRNRPRQRIDYPDNLITLPEKVYASLEYIKQYHAKGNPLLVFVGSVEMSQLYSSLLFREGIAHNV  
LNANNAAREAQIIESGQMGAVTVATSMAGRGTDIKLGKVAELGGLIVIGTERMESQRIDLQIRGRSGRQGDGPGMSKFFVSLEDD  
VIKKFGPSWVHKYKDYQVQDMTQPEVLKGRKYRKLVEKAQHASDSAGRSARRQTLLEYAESMNIQRDIVYKERNRLIDGSRDLE  
DVVVDIERYTEEVAADHYASRELLFHIVTNISFHVKEVPDYIDVTDKTAVRSMKQVIDKELSEKELLNQHDLYEQFLRLSLK  
AIDDNVVEQVDYLLQQLSMAIGGQSASQKNPIVEYYQEAYAGFEAMKEQIHADMVRNLLMGLVEVTPKGEIVTHFPZ

(SEQ. ID. NO. 64)

MIGTFAAALVAVLANFVPIEITPNSANTEIAPPDGIGQVLSNLLKLVDNPNVALLTANYIRILSWAVIFGIAMREASKNSQELLKTI  
ADVTSKIVIEWIINLAPFGILGLVFKTISDKGVGSLANYGILLVLLVTTMLFVAPVNVNPLIAFFMRRNPYPLVWNCRLRVSGVTAFFTR  
SSATNIPVNMKLCHDLGLNPDYTSVSIPLGSTINMAGVAITINLLTAAVNTLGIQVDFATAFVLSVVAIISCDASGIAGGSLLIPV  
ACSLFGISNDIAIQIVGVGVFVIGVQDSCETALNSSTDVLTAVAEYAATRKKZ

(SEQ. ID. NO. 65)

MSISQRTTKLILATCLACLLAYFLNLSSAVSAGIALLSLSDTRRSTLKLARNRFLSMALLAIGVLAFLHLSGFHIWLSGLYLAFYVPL  
AYKMGWEIGITPSTVLVSHLLVQUESTSPDLLVNEFLFAIGTGFAALLVNLVMPSEEEIHYHTLVEEKLKDILQRFKYLSRGDGR  
NRAQLVAELDTLLKEALRLVYLDHSDHLFHQTDYHIHYFEMRQRQSRILRNMAQQINTCHLAASESLILAQLFSKIAQQLSQTNPA  
SDDLDEIERYLEVFRNRSLPKTREEFETRATLLQLLREAKTFIQVKVDFYQKYRQZ

(SEQ. ID. NO. 66)

MEIMSLAIAVFAVIIGLVIGYVSISAKMKSSQEAELMLLNAEQEATNLRGQAEREADLLVNEAKRESKSLKKEALLEAKEEARKY  
REEVDAEFKSERQELKQIESRLTERATSLDRKDDNLTSKEQTLEQEQSISDRACKNLDAREEQLEEVERQKEAELERIGALSQAEAR  
DIILAQTEENLTREIASRIEAEQEVKERSDKMAKDILVQAMQRIAGEYVAESTNSTVHLPDDTMKGRIIGREGNRNRTFESLTGVDV  
IIDDTPEVVTLSGFDPRIEARMTEMLLKDGRIHPARIEELVEKNRQEIENKIREYGEAAAIEGAPNLHPDLMKIMGRQLQFRTSY  
GQNVLRHSIEVAKLAGIMASELGENAALARRAGFLHDIGKAIDHEVEGSHVEIGMELARKYKEPPVVNTIASHHGDVEAESVIAV  
IVAAADALSAARPGARSESLESYIKRLHDLEEIANGFEGVQTSFALQAGREIRIMVNPQIKDDKVITLAHKVRKKIENNLDPGNI  
KVTVIRELRAVDYAKZ

(SEQ. ID. NO. 67)

MMLKPSIDTLDDKVPKSYSLVILEAKRAHELEAGAPATQGFKEKSTLRALIEIESGNVTIHPDPEGKREAVRRRIIEEKRRKEEEEK  
KIKEQIAKEKEDGEKIZ

(SEQ. ID. NO. 68)

MSAYQLPTVWQDEASNQGAFTGLNRPTAGARFEQNLPKGEQAFQLYSLGTPNGVKVTILLEELLEAGFKEAAYDLYKIAMDGDGQ  
FGSDFVKLPNSKIPALDQSGTENVRVFESAHILLYLAEKFGAFLPSNPVEKVEVLNWLFWQAGAAPFLGGGFGHFFNYAPEKLE  
YPINRFTMEVKRQLDLDLDELAKQPYIAGNDYTIADIAIWSWYQQLVQGNLYQGSAKFLDASSYQNLVKWAEKIANRPAVKRGL  
EVTYTEIKZ

(SEQ. ID. NO. 69)

LASLITSIMFYVGFVDVLRDTIQKILSREETVIDPLGATLGIISAAIMFVVYLYNTRLSKKSNSNALKAAAKDNLSDAVTSLGTAIILA  
SSFNYPIVDKLVIAIITFFILKTAAYDIFISSFLSDGFDRLLEDYQKAIMEIPKISKVKSQRGRITYGSNIYLDITLEMNPDLVSFESHEI  
ADQVESMLEERFGVFDTDVHIEPAPIPEDEILDNVYKLLMREQLIDQGNQLEELLTDFFVYIRQDGEQMDKEAYKTKKELNSAIK  
DIQITSISQKTKLICYEIDGIIHTSIWRRHETWQNIHFQETKKEZ

(SEQ. ID. NO. 70)

MTIKLVATDMGDTFLDGNRFRDMDRLKSLVSYKEKGIYFAVASGRGFLSLEKLFAGVRDDIIFIAENGLSVEYQQQDLYEATMS  
RDFYLATFEKLKTSYVDINKLLLTGKKGSYVLDTVDETYLKVSQHYNENIQKVASLEDITDDIFKFTTNFTEETLEDGEAWVNN  
VPGVKAMTTGFESIDIVLDYVDKGVAIVELVKKLGITMDQVMAFGDNLNDLHMMQVVGHVPAPENARPEILELAKTVIGHHKE  
SVIAYMEGLZ

(SEQ. ID. NO. 71)

MADIKLIALDLDTLLTDDKRLTDRTKETLQAARDRGIKVVLTTGRPLKAMDFFLHELGTGQDEYITITFNGGLVQKNTGEILDK  
TVFSYDDVARLYEETEKLSPLDAISEGTVYQIQSDQESLYAKFNPALTFVPVDFEDLSSQMTYNKCVTAFAQEPLDAAIQKISPELF  
DQYEIFKSREMILLEWSPKNVHKATGLAKLISHLGIDQSQVMACGDEANDLSMIEWAGLGVAMQNAVPEVKAAANVTPMTNDE  
EAVAWAIEEYVLKENZ

(SEQ. ID. NO. 72)

MESLILLILLIANLAGFLIWQRQDRQEKHLSKSLDQADHLSQDLRYFDQARQASQLDQKLEVVVSDRLQEVRIELHQGLTQV  
RQEMTDNLLQTRDKTDQRLQALQESNEQRLEQMRQTVEEKLEKTLQTRLQASFETVSKQLESVNRGLGEMQTVARDVGALNKV  
LSGTRKTRGILGELQLGQIIEDIMTPAQYEREYATVENSSERVEYAIKLPQGQDQEVYVLPIDSKFPLADYYRLEEAYETGDKDEIERC  
RKSILLASVKRFARDIRNKYIAPRRTTNFGVLFVPTEGLYSEIVRNPVFFDRLREEQIIVAGPSTLSALLNSLVGFKTLNIQKSADHIS  
KTLASVKTEFGKFGGILVKAQKHLQHASGNIDELLNRRITAIERTLRHIELSEGEPAIDLLHFQENEEYEDZ

(SEQ. ID. NO. 73)

MKISHMKKDELFEFGYLIKSADLRQTRAGKNYLAFTFQDDSGEIDGKLWDAQPHNIEAFTAGKVHMKGRREVYNNTQVQNQIT  
LRLPQAGEPNADPFVKVSPVDVKEIRDYMSQMIFKIENPVWQRIVRNLYTKYDKEFYSYPAAKTNHHAFTGLAYHTATMVRL  
ADAISEVYPQLNKSLLYAGIMLHDLAKVIELTGPDQTEYTVRGNLLGHIALIDSEITKTMELGIDDTKEEVLLRHVILSHHGLLE  
YGPSVRPRIMEAEIIMIDNLDASMMMSTALALVDKGEMTNKIFAMDNRSFYKPDLDZ

(SEQ. ID. NO. 74)

MSEKAKKGFKMPSSYTVLLIIIAIMAVLTWFIPAGAFIEGIYETQPNPQGIWDVLMAPIRAMLGTHPEEGSLIKETSAADIVAFFILM  
VGGFLGIVNKTGALDVGIAISIVKKYKGREKMLILVLMPLFALGGTTYGMGEETMAFYPLLVPVMMAVGFDLSLTGVAIILLGSQIGC  
LASTLNPFATGIASATAGVGTGDGIVLRILFVVTLTALSTWVYRYADKIQKDPKSLVYSTRKEDLKHFNVEESSVESTLSSKQK  
SVLFLFVLTFILMVLSPFWTDLGVTIFDDFNTWLTGLPVIGNIVGSSTALGTWYFPEGAMLFAFMGILIGVIYGLKEDISSFMNG  
AADLLSVALIVAIARGIQVIMNDGMTITDILNWGKEGLSSQVFIYVITYIFYLPMSFLIPSSSGLASATMGIMAPLGEFVNVRPSLI  
TAYQSASGVNLNLIAPTSGIVMGALALGRINIGTWKFMGKLVVAIIVVTIALLLGTFLPFLZ

(SEQ. ID. NO. 75)

MSNSFVKLLVSQLFANLADIFFRVTHIANIYIISKSVIATSLVPILIGISSFVASLLVPLVTKRLALNRVLSLSQFGKTILLAILVGMFTV  
MQSVAPLVTYLFFVVAISILDGFAAPVSYAIVPRYATDLGKANSALSMTEAVQLIGWGLGGLLFATIGLLPTTCINLVLYIISFLML  
FLPNAEEVLESETNLEILLKGWKLVARNPRLRFLVSNALLEIFSNTIIVSSIILVFVTELLNKTESYWGYSNTAYSIGIIISGLIAFRLS  
EKFLAAKWEPLFTPNLKTIQNPCLSLDPGWFLFSPNGCFLLDKKEFFLYGISVEKNTRKETHMNSLNPNNHFNQNSFYQLSFDGG  
HLTYQGLIFFQELFSQKLKERISKYLVNTDQRRYCRYSDSDILVQFLQLLTGTYGTDYACKELSADAYFPKLLLEGGLASQPTLS  
RFLSRTDEETVHSLRCLNLELVEFFLQFHQLNQLIVDIDSTHFTTYGKQEGVAYNAHYRAHGYHPLYAFEGKTGYCFNAQLRPGN  
RYCSEEAADSFITPVLERFNQLFRMDSGFATPKLYDLIEKTGQYYLIKLLKNTVLSRLGDLSPCPQDEDLTILPHSAYSETLYQAGS  
WSHKRRVCQFSEKGNLFYDVISLVNTMTSGTSQDQFQLYRGRGQAEFIKEMKEGFFGDKTDSSTLIKNEVRMMMSCIAYNLY  
LFLKHLAGGDFQTLTIKRFRLHFLHVVGKCVTRGRKQLLKSSLYAYSELSFALYSRIRKVNLLNPVPYEPPIRRKASLMMH

(SEQ. ID. NO. 76)

MMEFFQQLPHLEPGNPOYFVYVIAATLPIFIGLFFKKRFAWYEVVLSLFFIVTMLVGGKTNQLAALGIYLCWEILLFFYKHRYKS  
KDGKWWFYLVSLFLLPIIFVKVQPAINGTQSLGFLGISYLTFRSVGIVIELRDGVIKDFTLWEFLRFLFMPTFSSGPIDRFKRFNEN  
YQAIPERDELMDMLDESRYIMWGFLYKFIHAHVGETLLPPLKNLALQSGGFNLYALAVMYTFGLELFFDFAGYSMFALAISNL  
MGIRSPINFNKPFLSRDLKEFWNRWHMSLSFWFRDFVFMRMVMVLTTRKKVFKNRNVTSMAIYVNMIMGFHWGVTWYYIAYG  
LFHGLGLVINDAWVRKKKTLNKKERKKAGKAALPENRWIQLGMMVVTFFHVMSLFLIFSGFLNNLWFKKZ

(SEQ. ID. NO. 77)

MLKRLWMIFGPVLIAGLLVFLLIFFYPTMHHNLGAEKRSVAVATTIDSFKERSQKVRALSDPNVRFPVFFGSSEWLRFDGAHPAVL  
AEKYNRSYRPPYLLGGGAASLNQYFGMQMLPQLENKQVYVVISQWFSKNGYDPAAFQYFNGDQLTSFLKHQSGDQASQYA  
ATRLQQQFPNVAMKDLVQKLASKEELSTADNEMIELLARFNERQASFFGQFSVRGYVNYDKHVAKYLKILPDQFSYQAIEDVVKA  
DAEKNTSNEMGMENFYFNEQIKKDLKLLKDSQKSFTYLYKSPEYNDLQLVLTQFSKSKVNPIFIIPVNVKKWMNYAGLREDMYQ  
QTVQKIRYQLESQGFNTIADFSKDGGEFFMKDTHLGLWGLWLAFDKAVDPFLSNPTPAPTYHLNERFFSKDWATYDGDVKEFQZ

(SEQ. ID. NO. 78)

MEKNLKALKQTTDQEGPAIEPEKAEDTKTVQNGYFEDAAVKDRTLSDYAGNWQSVYPFLEDGTFDQVFDYKAKLTGKMTQAEY  
KAYTKGYHTDVTKINITDNTMEFVQGGQSKKYTYKYVGKKILTYKKGNRGVRLFEATDADAGQFKYVQFSDHNVAPVKAEH  
FHIFGGTSQEALFEEMDNWPTYYPDNLSGQEAQEMLAHZ

(SEQ. ID. NO. 79)

MKDGHLAHHRLLNIGRIFQKLLSQDPEALYRGEQKILAVLWNSSETGCATATDIALATGLANNLTMTMIKKLEEQLVIVSPCGK  
DKRKKYLVLTELKSKQKEVGHVRSQKLDITIFYKGFSEEEIHQFEGFQERILANLKEKGNEVZ

(SEQ. ID. NO. 80)

MTNLIATFQDRFSDWLTALSQHLQLSLLTLLAILLAIPAVFLRYHEKLADWVLQIAGIFQTIPSLALLGLFIPLMGIGTLPALTALV  
IYAIFPILQNTITGLKGIDPNLQEGAFGMTRWERLKKFEIPLAMPVIMSGIRTAAVLIIGTATLAALIGAGGLGSFILLGIDRNNASLI  
LIGALSSAVLAIAFNLLKVMKAKLRTIFSGFALVALLGLSYSPALLVQKEKENLVIAKGIGPEPEILANMYKLLIEENTSMATV  
KPNFGKTSFLYEALKKGDIDYIPEFTGTVTESLLQSPKVSHEPEQVYQVARDGIAKQDHLAYLKPMYSQNTYAVAVPKKIAQEYQ  
LKTISDLKKVEGQLKAGFTLEFNDREDGNKGLQSMYGLNLLNVATIEPALRYQAIQSGDIQITDAYSTDAELERYDLQVLEDDKQLF  
PPYQGAPLMKEALLKKHPELERVNLTLAGKITESQMSQLNYQVGVEGSAKQVAKFEFLQEQGLLKKZ

(SEQ. ID. NO. 81)

MMHTYLQKKIENIKTTLGEMSGGYRRMVAAMADLGFSGTMKAIWDDLFAHRSFAQWIYLLVLGSPFLWLELVYEHRIVDWIGMI  
CSLTGICVIFVSEGRASNYLFLGINSVYILALQKGFYGEVLTLYFTVMQPIGLLVWYIQAQFKKEKQEFVARKLDGKGWTKYL  
SISVLWWLAFGFIYQSIGANRPYRDSITDATNGVGQILMTAVYREQWIFWAATNVFSIYLWWGESLQIQGKYLIYLSLVGWYQ  
WSKAAKQNTDLLNZ

(SEQ. ID. NO. 82)

MRNMKAKYAVVWAFFLNLTVAIVEFIAGGVFGSSAVLADSVHDLGDAIAIGISAFLETISNREEDNQYTLGYKRFSLLGALVTAVI  
LVTGSLVLILENVTIKLHPQPVNDEGILWLGIIATINLLASLVVGKGTKNESILSLHFLEDTLGVAVILMAIVLRFTDWYILDPLL  
SLVISFFILSKALPRFWSTLKIFLDAVPEGLDIKQVKSGLERLDNVASLNQLNLWTMDALEKNAIVHVLCKEMEHMETCKESIRIFL  
KDCGQNTIEIDADLETHQTHKRKVCDLERSYEHQHZ

(SEQ. ID. NO. 83)

MIYKYNVALRYTEKDVLRDVNLQIEDGEFVVLVGPSSGSKTTLKMINRLLEPTDGNIMYMDGKRIKDYDERELRLSTGYVLQAIA  
LFPNLTVAENIALIPEMKGSKEITKKTELLAKVGLPVAEYGHRLPSELSSGGEQQRVGIVRAMIGQPKIFLMDPEPFSALDAISRK  
QLQVLTKEHLKEFGMTTIFVTHDTEALKLADRIAVLQDGEIRQVANPETILKAPATDFVADLFGGSVHDZ

(SEQ. ID. NO. 84)

MSAVAISAMTKVMQETHGNPSSIHGHRQAGKLLREARQELAQLLRTKPHIFFTSGGTEGNNTTIIGYCLRHQEQGKHIITTAIEH  
HAVLETIDYLVQHFGFEATIIQPENQEITAQQIQKALRDDTILVSTMFVNNETGNLLPIAEIGQILKQHPAAHYVDAVQAIGKPIHSE  
ELGIDFLTASAHKFHGPKGIGFLYASSMDFDSYLHGGDQEQKKRAGTENLPAIVGMVAALKEDLEKQEEHFQHVQNLETAFLAEL  
EGIQYYLNRGKHLPLVYLNIGFPGQKNDLLRLDLAGISISTGSACTAGVQSSHVLEAMYGANSERLKESSLRISLSPQNTVEDLQ  
TLAKLTKEHGGZ

(SEQ. ID. NO. 85)

MLFKLSKEKIELGLSRLSPARRIFLSFALVILLGSLLSLPFVQVESSRATYFDHLFTAVSAVCVTGLSTLPVAHTYNIWGQIICLLLIQ  
IGGLGLMTFIGVFIYQSKQKLSRSLRATIQDSFSYGETRSLRKVFYSIFLTTFLVESLGAILLSFRLIPQLGWGRGLFSSIFLAISAFNA  
GFDNLGSTSLFAFQTDLLVNLVIAGLIITGGLGMVWFDLAGHVGRKKGRHLHFHTKLVLTLTIGLLFGTATTLFLEWNNAGTIG  
NLPVADKVLVVSFFQVTMRTAGFSTIDYTQAHPTVLLIYILQMFLLGGAPGGTAGGLKITTFFVLLVFARSELLGLPHANVARRTIAP  
RTVQKSFSVFIILMSFLIGLILLGITAKGNPPFIHLVFETISALSTVGVTANLTPDLGKLALSVMPLMFMGRIGPLTLFVSLADYHPE  
KKDMIHMYKADISIGZ

(SEQ. ID. NO. 86)

MSDRITGILGLGIFGSSVLAALAKQDMNIIAIDHAERINQFEPVLARGVIGDITDEELLRSAGIDTCDTVVATGENLESSVLAVMH  
CKSLGVPTVIKVKSQATAKKVLEKIGADSVISPEYEMGQSLAQTLFHNSVDVFQLDKNVSIVEMKIPQSWAGQSLSKDLRGKYN  
LNILGFRQENSPLDVEFGPDDLLKADTYILAVINNQLYDLTVALNSZ

(SEQ. ID. NO. 87)

MKLLSIAISSYNAAYLHYCVESLVIGGEQVGILINDGSQDQTQIEAECLASKYPNIVRAIYQENKCHGGAVNRGLVEASGRYFKV  
VDSDDWVDPRAYLKILETLQELESKGQEVDFVTNFVYEKEGQSRKKSMSYDSVLPVRQIFGWDQVGNFSKGQYTMHSLIYRT  
DLRLASQFZ

(SEQ. ID. NO. 88)

MKFNPNQRYTRYSIRRLSVGVASVVVASGFFVLVGPQSSVRADGLNPTPGQVLPEETSGTKEGDLSEKPGDVTLTQAKPEGVTGN  
TNSLPTPTERTVSEETSPSSLDTLFEKDEEAQKNPELTDVLKETVDTADVDTGQASPAETTPEQVKGGVKENTKDSIDVPAAYLEK  
AEGKGPFAGVNVQIPYELFAGDGMLTRLLLKASDNAPWSDNGTAKNPALPPEGLTKGKYFYEVLDNGNTVGKQGGALIDQLR  
ANGTQTYKATVKVYGNKDGKADLTNLVATKNVDININGLVAKETVQKAVADNVKDSIDVPAAYLEKAKGEGPFTAGVNHVPIY  
ELFAGDGMLTRLLLKASDKAPWSDNGDAKNPALSPLGENVKTGQYFYQVALDGNVAGKEKQALIDQFRANGTQYTSATVNVY  
GNKDGKPDLDNIVATKKVTININGLISKETVQKAVADNVKDSIDVPAAYLEKAKGEGPFTAGVNHVPIYELFAGDGMLTRLLLK  
SDKAPWSDNGDAKNPALSPLGENVKTGQYFYQVALDGNVAGKEKQALIDQFRANGTQYTSATVNVYGNKDGKPDLDNIVATK  
KVTININGLISKETVQKAVADNVKTVSMFQQPTZ

(SEQ. ID. NO. 89)

MKLKSYILVGYIISTLLTILVVFVAVQKMLIAKGEIYFLLGMTIVASLVGAGISLFLLPVFTSLGKLKEHAKRVAADKDFPSNLEVQG  
PVEFQQLGQTFNEMSHDLQVSFDSLEESEREKGLMIAQLSHDIKTPITSIQATVEGILDGIIKESEQAHYLATIGRQTERLNKLVEELN  
FLTNTARNQVETTSKDSIFLDKLLIECMSEFQFLIEQERRDVHLQVIPESARIEGDYAKLSRILVNLVDNAFKYSAPGTLKLEVVAKL  
EKDQLSISVTDEGQGIAPEDLENIFKRLYRVETSRNMKTGGHGLGLAIARELAHQLGGEITVSSQYGLGSTFTLVNLSGSENKAZ

(SEQ. ID. NO. 90)

MFGQTAQHGLTNSLKDWFIFLLNIGPQLAFFCQMLRCSRSEVQGTGNHRRFENMIQIFSHFGMTHLGQIKLVYQESIDLELLVNA  
LNHHLLIDRLVLTNPQITIEIDRQIVHGLDLLKGRKDKKEIDIKSMFRQLELASTQQICPINQRVHHGILAFGEISDLVPAKNLPNRQDZ

(SEQ. ID. NO. 91)

MEHLATYFSTYGGAAFFAALGIVLAVGLSGMGSAYGVGKAGQSAALLKEQPEKFASALILQLLPGTQGLYGFVIGILIWLQLTPEL  
PLEKGVAYFFVALPIAIVGYFSAKHQGNVAVAGMQILAKRPKEFMKGAILAAMVETYAILAFVVSFILTLRVZ

(SEQ. ID. NO. 92)

MLKSEKQSRQMLNEELSFLLEGETNVLANLSNASALIKSRFPNTVFAGFYLFDGKELVLGPFQGGVSCIRIALGKGVCGEAAHFQ  
ETVIVGDVTTYLNYISCDLSLAKSEIVVPMKNGQLLGVLDDLSSEIEDYDAMDRDYLEQFVAILLEKTAWDFTMFEEKSZ

(SEQ. ID. NO. 93)

MSVLEIKDLHVEIEGKEILKGVNLTCLKTGEIAAIMGPNGTGKSTLSAAIMGNPNYEVTKGEVLFDFGVNILELEVDERARMGLFLAM  
QYPSEIPGITNAEFLRAAMNAGKEDDEKISVREFITKLDEKMELNNMKEEMAERYLNEGFSGGEKKRNEILQLLMLEPTFALLDEID  
SGLDIDALKVVSQGVNAMRGEGFGAMIITHYQRLNLYITPDVVHVMMEGRVVLSSGGPELAARLEREGYAKLAELGYDYKEELZ

(SEQ. ID. NO. 94)

MPYKRQSRFSMALSKLDSLYMAVVADHSKNPHHQKLEDAEQISLNNPTCGDVINLSVKFDAEDRLEDIAFLNSGCTISTASASM  
MTDAVLGKTKQEILELATIFSEMVGQKDERQDQLGDAAFLSGVAKFPQRIKCATLAWNALKKTIENTQEQZ

(SEQ. ID. NO. 95)

MKIQDLLRKDVMLLDLQATEKTAVIDEMIKNLTDHGYVTDFTFKEGILAREALTSTGLGDGIAMPHSKNAAVKEATVLFASNK  
GVDYESLDGQATDLFFMIAAPEGANDTHLAALAELSQYLMKDGADKLQATSADQVIELFDQASEKTEELVQAPANDSGDFIVA  
VTACTTGIAHTYMAQEALQKVAEMGVGK VETNGASGVGNQLTAEDIRKAKAIIAADKAVEMDRFDGKPLINRPVADGIRKTE  
ELINLALSGDTEVYRAANGAKAATASNEKQSLGGALYKHLMSGVSQMLPFVIGGGIMIALAFLIDGALGPVNENLGNLSYHELA  
SMFMKIGGAAGFLMLPVFAGYVAYSIAEKPLVAGFVAGAIKEGFAFGKIPYAAGGEATSTLAGVSSGFLGALVGGFIAGALVL  
AIKKYVKVPRSEGAKSILLPLLTGTILTFVMLAVNIPMAAINTAMNDFLGGGGSVAVLLGIVLGGMMAVDMGPGVNAAYV  
FGTGTLAATVSSGGSVAMAAVMAGGMVPLAIFVATLLFKDKFTKEERNSGLTNIIMGLSFITEGAIPFGAADPARAIPSFILGSAVA  
GGLVGLTGIKLMAHPHGIFVIALTSNALLYLVSVLVGAIVSGVVYGYLRKPQAZ

(SEQ. ID. NO. 96)

MANKNTSTTRRRPSKAELERKEAIQRMILISGLIAILLIFAAFKLGAAGITLYNLIRLLVGSLAYLAIFGLLIYLFFFKWIRKQEGLLSGF  
FTIFAGLLIFEAYLVWYKGLDKSVLKGTMQVVTDLTGFRITTSFAGGGGLIGVALYIPTAFLFSNIGTYFISILILVGSLLVSPWSVY  
DIAEFFSRGFAKWEGHERRKEERFVKQEEKARQKAEKEARLEQEETEKALLDLPVDMETGEILTEEAQVQLPPIPEEKWVEPEII  
LPQAEKLFPEQEDSDDEDVQVDFSAKEALEYKLPQLFAPDKPKDQSEKKIVRENKILEATFASFQIKVTVRAEIGPSVTKEYE  
VKPAVGVRVNRISNLSDDLALALAAKDVRIEAPIPGKSLIGIEVPSNDIATVSFRELWEQSQTAKENFLEIPLGKAVNGTARAFDLSK  
MPHLLVAGSTGSGKSVAVNGHIASILMKARPDQVKFMMVDPKMVELSVYNDIPHLLIPVVTNPRKASKALQKVVDENMERYELFA  
KVGVRNIAFGNAKVEEFNSQSEYKQIPLPFIVIVDELADLMVASKEVEDAIIRLGQKARAAGIHMILATQRPSPVDVISGLIKANV  
PSRVAFVSSGTDSTRTILDENGAEKLLGRGDMLFKPIDENHPVRLQGSFISDDVERIVNFIKTQADADYDESFDPGEVSENEGEFS  
DGDAGGDPLEEFKSLVIETQKASASMIQRRLSVGFNRATRLMEELEIAGVIGPAEGTKPRKVLQZ

(SEQ. ID. NO. 97)

MSYFKKYKFDKSKQFKLMRTFTKGIATVFLVLLIFGFFGWKGLQIGALTA VFSLRESFDES VHFQTSRILGNSIGGLYALVFFLLNTFF  
HEAFWVTLVVVPICMTLMTNTVAMNNKAGVIGGVAAMLIITLIPSGETILYVVRVLETFMGVFAIIVNYDIDRIRLFLEKKEKZ

(SEQ. ID. NO. 98)

MNKSEHRHQLRALITKNKIHTQAEQALLAENDIQVTQATLSRDIKNMNLKSVREEDSAYYVLNNGSISKWEKRELYMEDALV  
WMRPVQHQLVLLKTLPLGLAQSFSGSIIDTSLFSDAIALTCGNDVCLICEDADTAQKCFEELKKFAPFFFEZ

(SEQ. ID. NO. 99)

MKSIKLNALSYMIRVLNIIFPILTGTYVARVLDRTDYGYFNSVDLTLSFFLPFATYGVYNYGLRAISNVKDNKKDLNRTFSSLYLCL  
IACITLTTAVYILAYPLFFTDNPIVKVYLVGMGIQLIAQIFSIEWVNEALENYSFLYKTA FIRILMLVSIFLVKNEHDIVVYTLVMSL  
STLINYLISYFWIKRDIKLVKIHLSDFKPLFLPTAMLV FANANMLFTFLDRFLVKTGIDVNVSYTYIAQIRIVTVIAGVVTGAIGVS  
PRLSYLGGKDKAEAYSVLNRGSRIFNFFIPLSFLGMVLGPNAILLYGSEKYIGGGILTSFAFRTIILALDTILGSQILFTNGYEKRIT  
VYTVFAGLLNLGSLFFNFHIAPEYLLTMTLSETSLVFIIFHRRQLIHLGHIFSYTVRYSLFSLSFVAIYFLINFPVDMVIN  
LPFLINTGLIVLLSAISYISLLVFTKDSIFYEFLNHVLALKNKFKKSZ

(SEQ. ID. NO. 100)

MELFMKITNYEYKLKKSGLTNQILKVLEYGENVDQELLGDIADISGCRNPVFMERYFQIDDAHLSKEFQKFPFSILDDCYPW  
DLSEIYDAPVLLFYKGNLDLLKFPKVA VVGSRAKSKQGAKSVEKVIQGLENELVIVSGLAKGIDTA AHMAALQNGGKTIAVIGTGL  
DVFFYPKANKRLQDYIGNDHLVLSEYGPGEQPLKFHFPARNRIIAGLCRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGSL  
DGCHHLIQEGAKLVTSQGDVLAEEFZ

(SEQ. ID. NO. 101)

MKQLTVEDAKQIELELDYIDTLCKKHNNINYIINYGTLLIGAVRHEGFIPWDDDDIDLSMPREDYQRFINIFQKEKSKYKLLSLETDKNY  
FNNFIKITDSTTKIIDTRNTKYTESGIFIDIFPIDRFDDPKVIDTCYKLESFKLLSFSKHKHIVYKDSLLKD WIRTAFWLLRPVSPRYFA  
NKIEKEIQKYSRENGQYMAFIPSKFKEKEVFPSTGTFDKTIDLFPENLSLPAPEKFDITLTQFYGDYMTLPPEEKRFYSHEFHAYKLED  
Z

(SEQ. ID. NO. 102)

MIKINHLTITQNKDLRLVSDLTMTIQDGEKVAIIGEEGNKSTLLKILMGEALSDFTIKGNISQSDYQSLAYIPQKVPEDLKKKTLHD  
YFFLSDIDLDYSILYRLAEELHFDNSRFASDQEIGNLSGGEALKIQLIHELAKPFEILFDEPSNDLDLETVDWLKGGQIKTRQTVIFIS  
HDEDLSETADTIVHLRLVKHREKAETLVEHLDYDSYSEQRKANFAKQSQAANNQRAYDKTMEKHRRVKQNVETALRATKDS  
TAGRLLAKKMKTVLSQEKRYEKAASMTQKPLEEEQIQLFFSDIQPLASKVLVQLEKENLSIDDRVLVQKLQTVRGQEKIGIIGP  
NGVGKSTLLAKLQRLNLDKREISLGFMPQDYHKKQLDLSPAIYLSKTGEKEELQKIQSHLASLNFSPYEMQHQRISLSSGGQGGKL  
LLDLVLKPNFLLLDEPTRNFSPTSQPPQIRKLFATYPGGLITVSHDRFLKEVCSIIYRMTEHGLKLVNLEDLZ

(SEQ. ID. NO. 103)

MKPKTFYNLLAEQNLPLSDQKQEFERYFELLVEWNEKINLTAITDKEEVYLVKHFYDSIAPILQGLIPNETIKLLDIGAGAGFPLPM  
KILYPELDVTIDSLNKRINFLQLLAQELDLNGVHFYHGRAEDFAQDKNFRAQYDFVTARAVARMQVLSLTIPYLVGGKLLALK  
ASNAPEELLEAKNALNLLFSKVEDNLSYALPNRDPRIYTVVEKKKETPNKYPRKAGMPNKRPLZ

(SEQ. ID. NO. 104)

MSIKLIAVDIDGTLVNSQKEITPEVFSAIQDAKEAGVKVVIATGRPIAGVAKLLDDLQRLDEGDYVVTFNAGLVQETATGHEIISSEL  
TYEDYLDMEFLSRKLGVMHHAITKDGIYTANRNIGKYTVHESLTVSMPIFYRTPEEMAGKEIVKCMFIDEPEILDAAIEKIPAEFYER





(SEQ. ID. NO. 116)

MNVNQIVRIIPTLKANNRKLNETFYIETLGMKALLEESAFSLGQDTGLEKLVLEEAPSMRTRKVEGRKKLARLIVKVENPLEIEGIL  
SKTDSIHRLYKQGNGYAFEIFSPEDDLILHAEDDIASLVEVEGEKPEFQTDLASISLSKFEISMELHLPTDIESFLESSEIGASLDFIPAQQ  
QDLTVDNTVTWDL SMLKFLVNELDIASLRQKFESTEFYIPKSEKFFLGKDRNNVELWFEEVZ

(SEQ. ID. NO. 117)

MKWTKIIKKIEEQIEAGIYPGASFAYFKDNQWTEFYLGQSDPEHGLQTEAGLVYDLASVSKVVGVGTCTFLWEIGQLDIDRLVID  
FLPESDYPDITIRQLLTHATDLPFIPNRDLLTAPELKEAMFHLNRRSQPAFLYSDVHFLLLGFILERIFNQDLDVLKQDVWKPWGM  
TETKFGPVELAVPTVRGVEAGIVHDPKARLLGRHAGSAGLSTIKDLQIFLEHYLADDFARDLNQNFSPDDKERSLAWNLEGDW  
LDHTGYTGTFIMWNRQKQEAIFLSNRTYEKDERAQWILDRNQVMNIRKEEZ

(SEQ. ID. NO. 118)

MMKKTYNHILVWGVIFYSICIVCFCTPQEQTSTVGVTGPIQHLGRVLVFLTPFNSLWKLGEVSDIGQLCWIFLQNILNVFLFFPLIFQ  
LLYLFPNLRKTKKVLLFSFLVSLGIECTQLILDFFDFNRFVEIDDLWTNTLGGYLAWLLYKRLHKNKVRNZ

(SEQ. ID. NO. 119)

MKIPLLTFAHRKFVYVLLTLLFLALVYRDVLMTYFFFDIHAPDLAKFDGQAIKNDLLKSALDFRILQFNLGFYQSFIPIIIVLLGFQYI  
ELKNKVLRLSIGREVSQGLKRLTLQVASIPCLILVTVLIIAITYFFGTSPGLWNSLFSGSGQLRLLDGEIKSYLFFTCVLLIGIF  
INAIYFLQIVDYVGNVTRSAITYLMFLWLGSMLLYSALPYMVPMTSLMQASYGVSMLKLFPTYIYIVPYMVLEKYEDNVZ

(SEQ. ID. NO. 120)

MFKVLQKVGKAFMLPIAILPAAGLLGIGGALSNTPTIATYPILDNSIFQSIFQVMSSAGEVVFSNLSLLCVCGLCIGLAKRDKGTAA  
LAGVTGYLVMTATIKALVKLFMAEGSAIDTGVIGALVVGIVAVYLHNRYNNIQLPSALGFFGSGSRFVPIVTSFSSILIGFVFFVIWPPF  
QQLVSTGGYISQAGPIGTFLYGLMRLSGAVGLHHIIPMFWYTELGGVETVAGQTVVGAQKIFFAQLADLAHSGLFTGTRFFA  
GRFSTMMFGLPAACLAMYSVPKNRRKKYAGLFFGVALTSFITGITEPIEFMFLFVSPVLYVHAFLDGVSFADVLNISIGNTFSG  
GVIDFTLFGILQGNAKTNWVLQIPFGLIWSVLYYIIFRWFTTFQFNVLTGPRGEEVDSKEISESADSTNTADYKQDSLQIRALGGSN  
NIEDVDACVTRLRVAVKEVNQVDKALLKQIGAVDVLEVKGQIAYGAKAILYKNSINEILGVDDZ

(SEQ. ID. NO. 121)

MKFRKLACTVLAGAAVLGLAACGNSGSGSKDAAKSGGDGAKEITWWAFPVFTQEKTDGQVGTYEKSIIEAFEKANPDIVKLETI  
DFKSGPEKITTAEAGTAPDVLFDAPGRIIYQKNGKLAELNDLFTDEFVKDNNENIVQASKAGDKAYMPISSAPFYMAMNKK  
MLEDAGVANLVKEGWTTDDFEKVLKALKDKGYTPGSLFSSGQGGDQGTAFISNLYSGSVTDEKYSKYTTDDPKFVKGLEKATS  
WIKDNLINNGSQFDGGADIQNFANGQTSYTLWAPAQNGIQAKLLEASKVEVVEVPFSPDEGKPALEYLVNGFAVFNNKDDKKVA  
ASKKFIQFIADDKKEWGPDKDVVRTGAFPVRTSFGKLYEDKRMETISGWTQYYSPIYNTIDGFAEMRTLWFPMLQSVSNGDEKPADA  
LKAFTKANETIKKAMKQZ

(SEQ. ID. NO. 122)

MQSTEEKPLTAFTVISTHILLLLTVLFIFFYWILTGAFKSQPDITVIPPQWFPKMPTMENFQQLMVQNPALQWMWNSVFISLVTMFL  
VCATSSLAGYVLAKKRFYQQRILFAIFIAAMALPKQVVLVPLVRIVNFMGIHDTLWAVILPLIGWPFVFLMKQFSENIPTELLESA  
KIDGCGEIRTFWSVAFPIVKPGFAALAIFTFINTWYDFMQLVMLTSRNNLTISLGVATMQAEMATNYGLIMAGAALAAVPIVTVF  
LVFQKSFTQGITMGAVKGZ

(SEQ. ID. NO. 123)

MKIMFKNFNNILNRKIVLLLRIVLMMILINHLLSTAVQKQDAVIFKRELISIFSNDYSEANLEIPKLLNLNLSFMVWGLSVILLES  
DLADHYHHLIRYQSSSFYDTRKRLVVISKFFTDLFVWFLGLLPLGIHFKTVALFFLLAQLMMLYLLLSYLIALISAGAGSFFLYF  
LAFVQGQEWMDHIVTVYLVLLSLLVMLIVSRLEEKFKKGZ

(SEQ. ID. NO. 124)

MKGKEMGKGVIGLEFDSEVLVNKAPTLLQLANGKTATFLTQYDSKTLLFAVDKEDIGQEIIAGKGSIESMHNLPVNLAGARVPGGV  
NGSKAAVHEVPEFTGGVNGTEPAVHEIAEYKGSDSLVTLTTKDITYKAPLAQQALPETGNKESDLLASLGLTAFFLGLFTLGKK  
REQZ

(SEQ. ID. NO. 125)

MKKTFFLLVLGLFCLLPVSFAIDFKINSYQGDLYIHADNTAEFRQKIVYQFEEDFKGQIVGLGRAGKMPSGFDIDPHPKIAAKNG  
AELADVTSEVTEEADGYTVRVYVNGQEGDIVEVDLVWNLKNLLFLYDDIAELNWLQPLTDSSESIEKFEFHVRGDKGAELFFHTG  
KLFREGTIEKSNLDYTIRLDNLPKRGVELHAYWPRDTFASARDQGLKGNRLEEFNKIEDSIVREKQSKQLVTWVLSILSISLLLS  
VCFYFIYRRKTTPSVKYAKNHRLYEPPMELEPMVLSEAVYSTSLEEVSPLVKGAGKFTFDQLIQTLLDVDRGNVSIIEGDAVGL  
RLVKEDGLSSFEKDCNLAFSGKKEETLSNLFADYKVSDSLRYRAKVSDEKRIQARGQLKSSFEVLNQMQEGVRKRVSFWGLP  
DYRPLTGGEKALQVGMGALTILPLFIGFLFLYSLDVHGYLYLPLPLGLGLVLSVFYWKLRDLNRDGVNLNEAGAEVYVLT  
STENMLREIARLDQAELESIVVWNRLLVYATLFGYADKVSHLMKVHQIQVENPDINLYVAYGWHSTFYHSTAQMASHYASVANTA  
STYVSSSGSGSSGGGSGGSGSIFAFZ

(SEQ. ID. NO. 126)

MKKVRKIFQKAVAGLCCISQLTAFSSIVALAETPETSIPAIGKVVIKETGEGGALLGDVAFELKNNTDGTTVSQRTEAQTGEAIFSNIK  
PGTYTLTEAQPPVGYKPKSTKQWTVVEVEKNRRTTVQGEQVENREALSQDYPQTGTYPDVQTPYQIIKVDGSEKNGQHKNLPNPY  
ERVPIEGLTSKRIYQVNNLDDNQYGIELTVSGKTVYEQDKSVPLDVILLDNSNSMSNIRNKNARRAERAGEATRSLIDKITSDE  
NRVALVTYASTIFDGTEFTVEKGVADKNGKRLNDSLFWNVDQTSFTNTKDYSLKLTNDKNDIVELKNKVPTAEADHDGNRLM  
YQFAGATFTQKALMKADEILTQARQNSQKVIHITDGVPTMSYPINFHATFAPSQQNLNAFFSKSPNKDGIILLSDFITQATSGEH  
TIVRGDQSQYQMFDTKTVYEKGAPAAFPVKPEKYSEMKAAGYAVIGDPINGGYIWLNWRESILAYPFNSNTAKITNHGDPTRWY  
NGNIAPDGYDVFTVIGINGDPGTDEATATSFMSQSISSKPENYNVTDTTKILEQLNRYFHTIVTEKKSIENTITDPMGELIDLQGLT  
DGRFDPADYTLTANDGSRLENGQAVGGPQNDGGLLNAKVLYDTTEKRIRVTLGLYLTDEKVTLYNVRNLNDEFVSNKFYDNTG  
RTTLHPKEVEQNTVRDFPIPKIRDVRKYPEITISKEKKLGDIEFIKVNKNKDKPLRGAVFSLQKQHPDYPDIYGAIDQNGTYQNVRT  
GEDGKLTFKNLSDGKYRLFENSEPAGYKPVQNKPIVAFQIVNGEVRDVTISVPQDIPAGYEFTNDKHYITNEPIPKREYPRTGIG  
MLPFYLGCMMMGGVLLYTRKHPZ

(SEQ. ID. NO. 127)

MKSINKFLTMLAALLLTASSLFSAAVFAAGTTTTSTVTHKLLATDGDMDKIANELETGNYAGNKVGVLPANAKEIAGVMFVWT  
NTNNEIIDENGQTLGVNIIDPQTFKLSGAMPATAMKKLTEAEGAKFNTANLPAAKYKIYEHSLSTYVGEDGATLTGSKAVPIELP  
LNDVVDAHVYPKNTEAKPKIDKDFGKANPDTPRVDKDTVPVNHQVGDVVEYEIVTKIPALANYATANWSDRMTEGLAFNKGTV  
KVTVDVDALEAGDYALTEVATGFDLKLTDAGLAKVNDQNAEKTVKITYSATLNDKAIVEVPESNDVTFNYGNNPDHGNTPKPNK  
PNENGDLTLTKTWVDATGAPIPAGAEATFDLVNAQTGKVVQTVTLTDDKNTVTVNGLDKNTKEYKFVERSIKGYSDYQEITTAG  
IAVKNWKDENPKLPDTEPKVVTYGKKFVKVNDKDNRLAGAEFVIANADNAGQYLARKADKVSQEEKQLVVTTKDALDRAVA  
AYNALTAQQQTQOEKEKVDKAQAAVNAVIAANNAFEWVADKDNENVVKLVSDAQGRFEITGLLAGTYYLEETKQPAGYALL  
TSRQKFEVTATSYSATGQIEYTAGSGKDDATKVVNKKITIPQTGGIGITHFAVAGAAIMGIAVYAYVKNKDEQDLAZ

(SEQ. ID. NO. 128)

MTMQKMQMISRIFFVMAFCFLVWGAAHVQAQEDHTLVQLQENYQEVVSQLPSRDGHRQLQVWKLDDSYSDRVRQIVRDLHS  
WDENKLSFKKTSFEMTFLENQIEVSHIPNGLYVRSIIQTDVSYPAEFLFEMTDQTVPLVIVAKKTDMTTKVVKLIKVDQDHNH  
LEGVGFKLVSARDVSEKEVPLIGEYRYSSSGQVGRITLYTDKNGEIFVTNLPLGNRYRKEVEPLAGYAVTTLDTDVQLVDHQLVTI  
TVVNQKLPRGNVDFMKVDGRNTSLQGAMFKVMKEESGHYTPVLQNGKEVVVTSKGDGRFRVEGLEYGTYLWELQAPTGYV  
QLTSPVSFTIGDKTRKELVTVVKNKRPRIDVPTGEETLVYLDACCHFVVWZ

(SEQ. ID. NO. 129)

MSHIYLSIFTSLLMLGLVNVAAQADEYLRIQMEAAVAPFNWTQDDDSNGAVKIDGTNQYANGYDVQIAKKIAKDLGKEPLVVKT  
KWEGLVPALTSKIDMIIAGMSPTAERKQIEAFSSSYTSEPVLVKKDSAYASAKSLDDFNGAKITSQQGVYLYNLIAQIPGAKKE  
TAMGDFQMRQALEAGVIDAYVSRPEALTAEAAANSKFKMIQVEPGFKEEDTAIAIGLRKNDNRISQINASIEISKDDQVALM  
DRMIKEQPAEATTTETSSSFSQVAKILSENWQQLLRGAGITLLISVGTIIGLIIGLAIGVFRAPLSENKVIYGLQKLGVWVNLVYI  
EIFRGTPMIVQSMVIYYGTAQAFGINLDRTLAAIFIVSINTGAYMTEIVRGGILAVDKGQFEAAATALGMTHNQTMRKIVLPQVVRNI  
LPATGNEFVINIKDTSVLNVISVVELYFSGNTVATQTYQYFQFTTHAVIYFVLTFVTTRILRFIERRMDMDTYTTGANQMOTEDLKZ

(SEQ. ID. NO. 130)

MTQAILEIKHLKKSYGQNEVLKDISLTVHKGEVISIIGSSSGSKSTFLRSINLLETPTDGGILYHGQNVLEKGYDLTQYREKLGVMVFQ  
SFNLFENLNVLENTIVAQTTLKRRERTEAEKIAKENLEKVGMGERYWQAKPKQLSGGQKQVVAIARALSMNPDAILFDEPTSALD  
PEMVGEVLKIMQDLAQEGLTMIVVTHEMEFARDVSHRVIFMDKGVIIEGKPEDLFTNPKEDRTKEFLQRYLKZ

(SEQ. ID. NO. 131)

MKKYQLLFFKISAVFSYLFVFSLSQLTLIVQNYWQFSSQIGNLFWIQNILSLLFIGVMIVVLVKTGHGYLFRIPRKKWLWYSILTVL  
LVFQISFNVTAKHVQSTAEQWAVLIGYSGTNFAELGIYIALFFLVPLMEELIYRGLLQHAFFKHSRFGDLLLPSILFALPHFSSSLP  
LLDIFVFAVTVGIIFAGLTRYTKSIYPSYAVHVINNIVATFPFLLTFLHRVLGZ

(SEQ. ID. NO. 132)

MNKKQWLGLGLVAVAAVGLAACGNRSSRNAASSSDVKTAAIVTDTGGVDDKSFNQSAWEGLQAWGKEHNSKDNNGFTYFQS  
TSEADYANNLQQAAGSYNLIFGVGFALNNAVKDAAKEHTDLNLYLIDDVIKQKNVASVTFADNESGYLAGVAAAKTTTKQV  
GFVGGIESEVISRFEAGFKAGVASVDPSIKVQVDYAGSFGDAAGKGTIAAAQYAAGADIVYQVAGGTGAGVFAEAKSLNESRPN  
EKVWVIGVDRDQEAEGKYTSKDGKESNFVLVSTLKQVGTTVKDISNKAERGEFFGGQVIVYSLKDKGVDLAVTNLSEEGKKA  
DAKAKILDGSKVPEKZ

(SEQ. ID. NO. 133)

MSKKLQQISVPLISVFLGILLGAIVMWIFGYDAIWGYEELFYTAFGSLRGIGEIFRAMGPLVLIGLGFVAVSRAGFFNVGLPGQALAG  
WILSGWFALSHDMPRPLMILATIVIALIAGGIVGAIPGILRAYLGTSEVIVTIMMNYIVLYVGNAFIHAFFPKDFMQSTDSTIRVGAN  
ATYQTPWLAELTGNSRMNIGIFFAIIAVAVIWFMLKKTTLGFEIRAVGLNPHASEYAGISAKRTIILSMIISGALAGLGGAVEGLGTF  
QNVVYVQGSLSAIGFNGMAVSLAANSPIGILFAAFLFGVLQVGAAPGMNAAQVPSSELVSIVTASIIFFVSVHYLIERFVKPKKQVKG  
KZ

(SEQ. ID. NO. 134)

MGVKKKLLKLSLLGLSLLIMTACATNGVTSITAESADFWSKLVYFFAEIIRFLSFDISIGVHILFTVLIRTVLLPVFQVQMVASRKM  
QEAQPRIKALREQYPRDMESRTKLEQEMRKVKEMGVRQSDSLWPILIQMPVILALFQALS RVDFLKTGHFLWINLGSVDITLVL  
PILAAVFTFLSTWLSNKALESERNGATTAMMYGIPVLIFIAVYAPGGVALYWTVSNAVYQVLQTYFLNPNPKIAEREA VVQAQKDL  
ENRRKAKKKAQKTKZ

(SEQ. ID. NO. 135)

MVIDPFAINELDYLLVSHFSDHIDPYTAAAILNPNKLEHVKFIGPYHCGRIWEGWGPKERIIVVKPGDITELKDMKIHAVESFDR  
TCLVTLVPNGADETGELAGLAVTDEEMAQKAVNYIFETPGGTIYHGADSHFSNYFAKHGKDFKIDVALNNYGENPVGIQDKMT  
SIDLLRMAENLRKVIIPVHYDIWSNFMASITNEILELWKMRRKDLQYDFHPFIWEVGGKYTYPDQHLVEYHHPRGFDDCFEQDS  
NIQFKALLZ

(SEQ. ID. NO. 136)

MFLSGWLSFANTYIHDLLGVLPDPSFLNAFESAIAAPLVEEPLKLLSLVFLALIPVRKLKSLFLLGIASGLGFQMIKDIGYIRTDLP  
EGFDFITSRILERIISGIAHWTFSGLA VGVYLLYRAYKQKVGKKQGLIFLGLALGTHFLFNSPFVELETPLAIPVVTAIALYGF  
YHAYCFVEKHNEMLTZ

(SEQ. ID. NO. 137)

MKVEPRCDVLSRMSHFIRILIMELQELVERSWAIRQAYHELEVKHHD SKWTV EEDLLALSNDIGNFQRLVMTKQGRYYDETPT  
LEQKLSENIWWLELSQRLDIDILTEMENFLSDEKEQLNVRTWKZ

(SEQ. ID. NO. 138)

MLDWKQFFLAYLRSRSLFTYLLSLAFLVLLFQFLFASLGIYFLYFFFLCCFVTLFFTWDLVETQVYRQELLYGEREAKSPLEIALA  
EKLEAREMELYQQRSKAERKLTDLDDYYTLVWHQIKTPIAASQLLVAEVVDRQLKQQLQEQEIFKIDSYTNLVQLYLRLESFHDDL

LKQVQIEDLVKEIRKYALFFIQKGLNVNLHDLDEIVTDKKWLLVVIEQIISNSLKYTKEGGLEIYMDDQELCIKDTGIGIKNSDVL  
RVFERGFSYNGRLTQSSSGLGLYLSKKISEELGHQIRIESEVGKGTTVRIQFAQVNLVLEZ

(SEQ. ID. NO. 139)

MELNTHNAEILLSAANKSHYPQDELPEIALAGRSNVGKSSFINTMLNRKNLARTSGKPGKTQLLNFFNIDDKMRFDVPGYGYAR  
VSKKEREKWCMEIEYLTTRENLRVVSLVDLRHDPSSADDVQMYEFLKYIEIPVIVATKADKIPRGKWNKHESAIAKKLNFDP  
DDFILFSSVSKAGMDEAWDAILEKLZ

(SEQ. ID. NO. 140)

MTKKQLHLVIVTGMMSGAGKTVAIQSFEDLGYFTIDNMPPALLPKFLQLVEIKEDNPKLALVVDMRSRSFFSEIQAVLDELENQDGL  
DFKILFLDAADKELVARYKETRRSHPLAADGRILDGIKLERELLAPLKNMSQNVVDITELTPRELKTLAEQFSDQEQAQSFRIEV  
MSFGFKYGIPIDADLVFDVRFPLPNPYLPELRNQTGVDEPVYDYVMNHPESEDFYQHLLALIEPILPSYQKEGKSVLTIAMGCTGGQ  
HRSVAFAKRLAQDLSKNWSVNEGHRDKDRRKETVNRSZ

(SEQ. ID. NO. 141)

MRKPKITVIGGGTSPVILKSLREKDVEIAAIVTVADDGGSSGELRKNMQQLTPPGDLRNVLVAMSDMPKFYEKVFQYRFSEDAG  
AFAGHPLGNLIAGLSEMOGSTYNAMQLLSKFFHTTGKIYPSDDHPLTLHAVFQDGTVEVAGESHIVDHRGIIDNVYVTNALNDDTPL  
ASRRVVQTTILESMDIVLPGPSLFTSILPNIVIKEIGRALLETKAEIAYVCNIMTQRGETEHFTDSHDVEVLHRLGRPFIDTVLVNIEK  
VPQEYMNSNRDFEYLVQVEHDFVGLCKQVSRVISSNFLRLENGGAFFHDGDLIVDELMRI  
IQVKKZ

(SEQ. ID. NO. 142)

MKNLIKLLIIRLIVNLADSVFYVALWHVSNNYSSSMFLGIFIAVNYLPDLLLLIFFGPVIDRVNPQKILIISILVQLAVAVIFLLLLNQISF  
WVIMSLVFISVMASSISYVIEDVLIPQVVEYDKIVFANSLSISYKVLDSIFNSFASFLQVAVGFILLVKIDIGIFLLALFILLLLKFRTSN  
ANIEFNSFKYKREVLQGTFFILNKLKFKTSISLTLINFFYSFQTVVPIFSIRYFDGPIFYGIFLTIAGLGGILGNMLAPIVICYLKS  
QIVGVFLFLNGSSWLVAIVIKDYTLSDLFFVCFMSKGVNFIHNSLYQQIPPHQLLGRVNTTIDSIISFGMPIGSLVAGTLIDLNIELVLI  
AISIPYFLSYIFYTDNGLKEFSIYZ

(SEQ. ID. NO. 143)

MMSNKNKEILIFALTYVLFMFDDGVKLLASLMPAIAANYLVYVVALYGSFLFKDRLIQWKEIRKTKRKFFFGVLTGWLFILMT  
VVFVSEMLKQFVGLDGGQLNQSNQSTFQEQPLLIIVFACVIGPLVEELFFRQVLLHYLQERLSGLLSIILVGLVLFALTHMHSAL  
SEWIGAVGYLGGGLAFSITYVKEKENIYPLL VHMLSNSLSLILAIISIVKZ

(SEQ. ID. NO. 144)

LKKPIIEFKNVSKVFEDSNTKVLKDNFELEEGKFYTLLGASGSGKSTILNIIAGLLDATTGDIMLDGVRINDIPTNKRVDVHTVFQSYA  
LFPHMNVFENVAFPLRLRKIDKKEIEQVAEVLKVMVQLEGYEKRSIRKLSGGQRQVVAIARAIIHQPRVVLDEPLSALDLKLRD  
MQYELRELQORLGITFFVTHDQEEALAMSDWIFVMNDGEIVQSGTPVDIYDEPINHFVATFIGESNILPGTMIEDYLVFENGKRFE  
AVDGGMKPNPEVEVVIRPEDLRITLPEEGKLQVKVDTQLFRGVHYEIIAYDELGNEWMIHSTRKAIVGEEIGLDFEPEDIHIMRLNE  
TEEEFDARIEEYVEIEEQEAGLINAIEEERDEENKLZ

(SEQ. ID. NO. 145)

MKSMRILFLLALIQISLSSCFLWKECILSFKQSTAFFIGSMVFVSGICAGVNYLYTRKQEVHVSVLASKKSVKLFYSMLLLINLLGAVL  
VLSNLFIKNTLQQLVDFLLPSFFFLGDLILLPLKKYVRDFLAMLDKKTVLVTILATLLFLRNPMTIVSLIYIGLGLFFAAYL  
VPNSVKKEVSFYGHIFRDLVLVIVTLIFFZ

(SEQ. ID. NO. 146)

MVKKIIGMVLALLSVTVGVGVFAYTIYQQTETLAKTYKKIGEETKVIEATEPLTILLMGVDTGNVERTETWVGRSDSMILMTV  
NPKTKKTTMMSLERDILTRIESGNGQAHEAKLNSAYADGGAELAIETIQKMMNIHIDRYVMVNMRLGLQKLVDVAVGGITVNNILG  
PISISDQEEFNTISIGVGEQHIGGEEALVYARMRYQDPEGDYGRQKRQREVIQKVMKALSLSIGHYQEILKALSDNMQTNIDLSA  
KSIPNLLGYKDSFKTITETQQLQGEQILQGVSYQIVSRAHMLEMQNLLRRSLGQEEVTQLETNAVLFEDLFGRAVPVGDEDNZ

(SEQ. ID. NO. 147)

MKKQAYVIAITSLFVFFSHSLLEILDFDWSIFLHDVEKTEKFVFLLLVFSMSMTCLLALFWRGIEELSLRKMQANLKRLLAGQE  
VVQVADPDLDAFSLSGKLNLLTEALQKAENQSLAQEEIEEKRIARDLHDTVSQELFAAHMILSGISQALKLDREKMQTQ  
LQSVTAILETAQKDLRVLLHLRPVELEQKSLIEGIIILLKELEDKSDLRVSLKQNMTKLPKKIEEHIFRILQELISNTRHAQASCLD  
VYLYQTDVELQLKVVDNGIGFQLGSLDDLSYGLRNIKERVEDMAGTVQLLAPKQGLAVDIRIPLLDKEZ

(SEQ. ID. NO. 148)

MIVSIISQGFVWAILGLGIFMTFRILNFPDMTTEGSFPLGGAVAVTLITKGVPNPLATLVAVGAGCLAGMAAGLLYTKGKIPTLLSGI  
LVMTSCHSIMLLIMGRANLGLLGTQIQDVLFPDSDLNQLLTGLIFVSIVIALMLFLDITKLQAYIATGDNPDMAFSFGIHTGRME  
LMGLVLSNGVIALAGALIAQGEYADVSRGIGVIVVGLASLIIEGIVFKSLSLAERLVTVVGSIAVQFLVWAVIALGFNTSYLRLYS  
ALILAVCLMIPTFKQTIKGAKLSKZ

(SEQ. ID. NO. 149)

MKKMKVWSTVLATGVALTTLAACSGGSNSTASSSEKADKSQELVIYSNSVSNRGRDWLTAKAKEAGFNIKMVDIAGAQLADR  
VIAEKNNVADMVFGIGAVDSNKIRDQKLLVQYKPKWLDKIDQSLSDKDNYYNPVIVQPLVLIGAPDVKEMPKDWTELGSKYKG  
KYSISGLQGGTGRILASILVRYLDDKELGVSEKGEVAKAYLKNAYTLQKGESSIVKMLDKEDPIQYGMWWSGALVGQKEQ  
NVVFKVMTPEIGVPFVTEQTMVLSTSKKQALAKEFIDWFGQSEIQVEYSKNFGSIPANKDALKDLPEDTKKFVDQVKPQNIDWEA  
VGKHLDEWKEAELEYVQZ

(SEQ. ID. NO. 150)

MIKFDNIQIKYGDFAIDNLNLDIHEGEFFTLGPSGCGKSTTLRALVGLFDPSSGSIEVNGTDVTHLEPEKRGIGIVFQSYALFPTMT  
VFDNIAFGLKVKVAPDVIAKVSAAKIKISDQQLQRNVSELGGQQQRVALARALVLEPKILCLDEPLSNLDAKLRVDLRKL  
KRLQKELGITTYVTHDQEEALTLSDRIA VFNNGYIEQVGTPEIYHNSQTEFVCDFIGDINVLDTETVHEVLLKNTSVFLEDKKGYI  
RLEKVRFNRETEQDFILKGTIIDVEFSGVTHYTIKVSQSILNVTIDSQAIRSVGESVELFITPSDVLQFZ

(SEQ. ID. NO. 151)

MRHKLNLKDWLIRLGLIWFLVTFIYPNFDLVVNVFVKGGEFSLDAVHRVLKSQRALQSIMNSFKLAFSLIITVNVVGILCVLFTEYF  
DIKGAKILKGYMTSLIYGGVVLATGYKFVYGPYGLITKFLQNVIPSLDPNWFIFYGAVLFIMTFSGTANHTLFLTNTIRSVDYHTIE  
AARNMGAKPFTVFRKVVLPTLIPTLFALTIMVFLSGLSAVAAPMIVGGKEFQTINPMIITFAGMGNRDLAALLAIIILGIATTILLTIM  
NKIEKGGNYISISKTKAPLKKQKIASKPWNIIAHIVAYGLFTVFMLPLIFIVLYSFTDPVAIQTGNLTLSNFTLENYRLFFSNSAAFPF  
LVSTIYSIIAATTATILAVVFARVVRKHKSFRDFLFEYGALLPWLLPSTLLAVSLLFTFNQPQFLVLNQILVGSLVILLIAYIVVKIPFSY  
RMVRAILFSVDDMEDAARSMGASPFYTMKVIIPFILPVVLSVIALNFNSLLTDFDLSVFLYHPLAQPLGITIRSAGDETATSNAQA  
LVFVYTTIVLMIISGTVLYFTQRPGRKVRKZ

07



Q8

TCAATCTGATGGGAAAAATAGCTGAAAAAGAAATGGGTCTACGATTCTCATAGTCAAGCTTGGTACTACTTCAAATCCGGTGGT  
TACATGACAGCCAATGAATGGATTTGGGATAAGGAATCTTGGTTTACCTCAAATCTGATGGGAAAAATAGCTGAAAAAGAAATG  
GGTCTACGATTCTCATAGTCAAGCTTGGTACTACTTCAAATCTGGTGGCTACATGGCGAAAAATGAGACAGTAGATGGTTATC  
AGCTTGGGAAGCAGTAAATGGCTTGGAGGAAAAATACAAATGAAAAATGCTGCTTACTATCAAGTAGTGCCTGTTACAGCC  
AATGTTTATGATTGAGATGGTGAAGGCTTCTCTATATATCGCAAGGTAGTGTGCTATGGCTAGATAAGGATAGAAAAAGTGA  
TGACAAGCGCTTGGCTATTACTATTTCTGGTTTGTCAAGGCTATATGAAAAACAGAAGATTACAAGCGCTAGATGCTAAGG  
ACTTTATCCCTTATTATGAGAGTGTGGCCACCGTTTTTATCATTATGCTGCTCAGAATGCTAGTATCCAGTAGCTTCTCAT  
CTTTCTGATATGGAAGTAGGCAAGAAATATTATTCGGCAGATGGGCTGCATTTTGATGGTTTTAAGCTTGAGAATCCCTTCTCT  
TTTCAAAGATTTAACAGAGGCTACAACTACAGTGTGAAGAATTGGATAAGGTATTTAGTTTGTCTAAACATTAAACAATAGCC  
TTTGGAGAAACAAGGGCGCTACTTTTAAGGAAGCCGAAGAACATTACCATATCAATGCTCTTTATCTCTTGGCCATAGTGCC  
CTAGAAAGTAAGTGGGGAAGAAGTAAATTTGCCAAAGATAAGAATAATTTCTTTGGCATTACAGCCTATGATACGACCCCTTA  
CCTTTCTGCTAAGACATTTGATGATGTGGATAAGGGAATTTTAGGTGCAACCAAGTGGATTAAGGAAAATTATATCGATAGGG  
GAAGAACTTTCTTGGAAACAAGGCTTCTGCTATGAATGTGGAATATGCTTCAGACCCCTTATTGGGGCGAAAAAATTGCTAGT  
GTGATGATGAAAATCAATGAGAAGCTAGGTGGCAAAGATTAG

(SEQ. ID. NO. 155)

MNLGEFYNKINKNRRLMKKVRFI FLALLFFLASPEGAMASDGTWQKGQYLKEDGSQAANEWVFDTHYQSWFYIKADANYA  
ENEWLKQDDDFYFLKSGGYMAKSEWVEDKGAFYYLDQDGKMKRNAWVGTSYVGATGAKVIDWVYDSQYDAWFYIKADGQHAE  
KEWLQIKGDDYFKSGGYLLTSQWINQAYVNASGAKVQGWLFQYQSWFYIKENGNADKEWIFENGHYLYLKSGGYMAAN  
EWIWDKESWFLYFKFDGKMAEKWVYDSHSQAWYFYSKSGGYMTANEWIWDKESWFLYKSDGKIAEKWVYDSHSQAWYFYSKSG  
YMTANESWVYDKESWFLYKSDGKIAEKWVYDSHSQAWYFYSKSGGYMAKNETVDGYQLGSDGKWLGSQVVPVTA  
NVYDSDEKLSYISQGSVWVLDKDRKSDDKRLAITISGLSGYMKTEDLQALDASKDFIPYYESDGHRYFYHYVAQNASIPVASH  
LSDMEVGKYYSDGLHFDGFKLENPFLFKDLTEATNYSAEELDKVFSLLNINNSLLENKGATFKEAEEHYHINALYLLAHS  
LESNWGRSKIAKDNFPGITAYDTPYLSAKTFDDVDKGILGATKWKIENYIDRGRFNLGNKASGMNVEYASDPYWGKIAS  
VMMKINEKLGGKZ

**ID205 - 4118.1** (SEQ. ID. NO. 172)

ATGAAAAAATTAGGTACATTACTCGTTCTCTTCTTTCTGCAATCATTCTTGTAGCATGTGCTAGCGGAAAAAAGATACAAC  
TTCTGGTCAAAAATAAAGTTGTTGCTACAACTCAATCATCGCTGATATTACTAAAAATATTGCTGGTGACAAAATTGACC  
TTCATAGTATCGTTCCGATTGGGCAAGACCCACACGAATACGAACCACTTCTGAAGACGTTAAGAAAACTTCTGAGGCTAAT  
TTGATTTTCTATAACGGTATCAACCTTGAACAGGTGGCAATGCTTGGTTTACAAAAATGGGTAGAAAAATGCCAAGAAAACTGA  
AAACAAAGACTACTTCGCGAGTCAGCGACGGCGTTGATGTTATCTACCTTGAAGGTCAAAATGAAAAAGGAAAAAGAGCCAC  
ACGCTTGGCTTAACCTTGAACCGGTATTATTTTGTCTAAAAATATCGCCAAACAATGAGCGCCAAAGACCCCTAACATAAA  
GAATTTCTATGAAAAAATCTCAAAGAATATACTGATAAGTTAGACAACTTGATAAAGAAAGTAAGGATAAATTTAATAAGAT  
CCCTGCTGAAAAAGAACTCATTGTAAACAGCGAAGGAGCATTCAAATACTTCTCTAAAGCCTATGGTGTCCCAAGTGCTTACA  
TCTGGGAAATCAATACTGAAGAAGAAGGAACCTCTGAACAAATCAAGACCTTGGTTGAAAACTTCGCCAAACAAAAGTTCCA  
TCACTCTTTGTAGAATCAAGTGTGGATGACCGTCCAATGAAACTGTTTCTCAAGACACAAACATCCCAATCTACGCTCAAAT  
CTTTACTGACTCTATCGCAGAACAGGTAAGAAGGCGACAGCTACTACAGCATGATGAAATACAACCTTGACAAGATTGCTG  
AAGGATTGGCAAAATAA

(SEQ. ID. NO. 156)

MKKLGTLVLVFLSAIILVACASGKKDTSQGLKVVATNSIIADITKNIAGDKIDLHSIVPIGQDPHEYEPLPEDVKKTSEAN  
LIFYNGINLETGGNAWFKLVENAKKTENKDYFAVSDGVDVYILEGQNEKGKEDPHAWNLNENGIIIFAKNIAKQLSAKDPNNK  
EFYEKNLKEYTDKLDKDKESKDKFNKIPAEKKLIVTSEGAFKYFSKAYGVPSAYIWEINTEEEGTPEQIKTLVEKLRTQKVP  
SLFVESSVDDRPMKTVSQDNTNIPYAIQIFDTSIAEQGKEGDSYSSMMKYNLDKIAEGLAKZ

**ID206 - 4119.1** (SEQ. ID. NO. 173)

ATGGAATGGTATAAAAAATCGGACTTCTTGCACTACAGGTTTAGCTTTGTTTGGGCTCGGCGCTTGTCTCAACTATGGTAA  
ATCTGCGGATGGCACAGTGACCATCGAGTATTTCAACCAGAAAAAGAAATGACCAAAACCTTGAAGAAATCACTCGTGATT  
TTGAGAAGGAAAAACCTTAAGATCAAGGTCAAAGTCGTCAATGTACCAATGCTGGTGAAGTATTGAAGACACGCGTTCTCGCA  
GGAGATGTGCTGATGTGGTCAATATTTACCCACAGTCCATCGAATGCAAGAATGGGCAAAAGCAGGTGTTTGAAGATTT  
GAGCAACAAAGACTACTTGAACCGGTGAAAAATGGCTACGCTGAAATGAAATGCTGTAAACGAAAAAGTTTACAACGTTCTCT  
TTACAGCTAATGCTTATGGAATTTACTACAACAAGATAAATTCGAAGAAGTGGGCTTGAAGGTTCTGAAACCTGGGATGAA  
TTTGAACAGTGTAGTCAAAGATATCGTTGCTAAAGGACAAACACCATTTGGAATTGCAGGTGCAGATGCTTGGACATCAATGG  
TTACAATCAATTAGCTTTTGGCAGACCAAGGTGGAGGAAAAAGAACAAATCAATACCTTCGTTATCTCAACCAATGCCCA  
TTAAATTGTGCGATCCGATTATGAAAGATGATATCAAGGTGATGGACATCCTTCGCATCAATGGATCTAAGCAAAAGAACTGG  
GAAGGTGCTGGCTATACCGATGTTATCGGAGCCTTCGCACGTGGGGATGTCTCATGACACCAATGGGTCTTGGGCGATCAC  
AGCGATTAATGAACAAAAACCGAATTTAAGATTGGGACCTTCAATGATTCAGGAAAAAGAAAAAGGACAAAGCTTAACCGTTG  
GTGCGGGAGACTTGGCATGTTCTATCTCAGCCACCACCAACATCCAAAAGAAGCCAATGCCTTTGTGGAATATATGACCCGT  
CCAGAAGTCATGAAAAATACTACGATGTGGACGGATCTCCAACAGCGATCGAAGGGGTCAAACAAGCAGGAGAAGATTACCC  
GCTTGTGCTGATGACCAATATGCCTTTACGGATCGTCACTTGGTCTGGTTGCAACAATACTGGACAGTGAAGCAGACTTCC  
ATACCTTGACCATGAACATATGCTTGACCGGTGATAACAAGGCATGGTCAATGATTTGAATGCCTTCTTTAACCCGATGAAA  
GCGGATGTGGATTAG

(SEQ. ID. NO. 157)

MEWYKKIGLLATTGLALFGLGACSNYKGSADGTVTIEYFNQKKEMTKTLEEITRDFEKENPKIKVKVNVNPNAGEVLKTRVLA  
GDVPDVVNIYQSIELQEWAKAGVFEDLSNKDYLKRVKNGYAEKYAVNEKVYNVPTANAYGIYYNKDKFEEGLKVPETWDE  
FEQLVKDIAVKGQTPFGIAGADAWTLNGYNQLAFATATGGGKEANQYLRYSQPNAILKSDPIMKDDIKVMDILRINGSQKKNW  
EGAGYTDVIGAFARGDVLMTPNGSWAITAINEQPNFKIGTFMIPGKEKGQSLTVGAGDLAWSISATTKHPKEANAFVEYMT  
PEVMQKYVDVDSPTAIEGVKQAGEDSPLAGMTEYAFTRHLVWLQYQWTSEADFHTLTMNVLVTGDKQGMVNDLNAFFNPMK  
ADVDZ

**ID207 - 4123.1** (SEQ. ID. NO. 174)

ATGAAGAAAAATCAAAACCGCATGGACCGTTACCAAGTCAGACTCAGCTAGCTTATCTGGGAGATGAACTAGCAGCTTTTATCCA  
CTTCGGTCTAATACCTTTTATGACCAAGAATGGGGGACTGGACAGGAGGATCCTGAGCGCTTTAACCCGAGTCAGTTGGATG  
CGCGTGAAGTGGGTTCTGCTGCTCAAGGAAACGGGCTTCAAAAAGTTGATTTTGGTGGTCAAGCACCACGATGGCTTTGTCTCT  
TATCCGACAGCTCACACAGATTATTCGGTTAAGGTGATCCTTGGAGGAGAGGAAAGGGCGACTTGCTCCTTGAAGTATCCCA



AGTGCCACAGAGTTTGATATGGATATGGGGGTCTACCTGTACCGTGGGATGCCCATAGTCCCCTCTATCATGTGGACCGAG  
AAGCGGACTACAATGCCTATTATCTGGCTCAGTTGAAGGAAATCTTATCAAATCCTAACTATGGGAATGCTGGTAAGTTTCGCT  
GAGGTTTGGATGGATGGTGCCAGAGGAGAGGGCGCGCAAAAGGTTAATTATGAATTTGAAAAATGGTTTGAAACCATTCGTGA  
CCTGCAGGGCGATTGCTTGTATTTTTCAACAGAGGACCAAGTATCCGCTGGATTGGCAATGAACGAGGGTATCGAGGTGATC  
CACTGTGGCAAAAGGTGAATCCTGATAAACTAGGAACAGAGAGCTGAACTATCTTCAGCACGGGGATCCCTCGGGCAGC  
ATTTTTTCAATCGGAGAGGAGATGTTTCCATCCGTCAGGCTGGTTCTACCATGAGGATCAGGATCCTAAGTCTCTCGAGGA  
GTTGGTCGAAATCTACTTTCACTCAGTAGGGCGAGGAACCTCACTCTTGCTTAATATTCCGCCGAATCAAGCTGGGCTCTTTG  
ATGCAAGGATATTGAACGACTTTATGAATTTGCGACCTATCGCAATGAGCTCTATAAAGAAGATTGGCTCTGGGAGCTGAG  
GTATCTGGTCCAGCTCTTTCCGAGACTTTGCTTGTGCCATTTGACAGACGGCTTGAGACCAGCTCTTGGGCAAGCGATGC  
AGACTTGCCCATCCAGTTAGAACTCGACTTAGGTTCTCTTAAACTTTTGATGAATTGAGTTAAGAGAAGATTGAAAGCTAG  
GGCAACGAATCGCTGCTTTTCATGTGCAAGTAGAGGTGGATGGTGTCTGGCAGGAGTTTGGTTCCGGTCTACTGTTGGTTAC  
AAACGTCTCTTACGAGGAGCAGTTGTTGAGGCACAGAAGATACGTGTAGTCATTACAGAATCACAGGCTTTGCCTTTGTTGAC  
CAAGATTTCCCTTTATAAACTCCTGGATTATCAAAAAAGAAAGTTGTTTCAGGAAGTAGCATTGTCAGAAAAAGCCTAGCTG  
TGGCAAGGGAGAAAACTGCTATTTTACAGTTAAGCGCAGAGAATGTAGTGGTCTTTAGAAGCTAAGATTTCGATTCAACCG  
GGACAGGTGTCCAGTGGTGTGCTGCTATCAGGATGAGATTCAAGTCTTGCCTTCAAACTGGTGAGCTGAAAAAGTCTGAC  
GCTACCAACCTTGTATTTCGAGGAGATAAAACCTTGATTCTATCTGAACCTAACGGTGGATGGTCAGCTTGTGGATCAAC  
TTCAAGTCCAAGTTTCATAA

(SEQ. ID. NO. 158)

MKKIKPHGPLPSQTQLAYLGDELAFAIFHGPNTFYDQEWGTQGEDPERFNPSQLDAREWVRVLKETGFKKLILVVKHHDGFVL  
YPTAHTDYSVKVSPWRRKGDLLEVSQAQTEFMDMGVYLSPWDHSPLYHVDREADYNAYYLAQLKEILSNPNYGNAGKFA  
EVMMDGARGEGAQKVNVEFEKWFETIRDLQGDCLIFSTEGTSIRWIGNERGYAGDPLWQKVNPDKLGEALNLYLQHGDPST  
IFSIGEADVSIRPGWFYHEDQPKSLEELVEIYFHSVGRGTPLLNIPPNQAGLFDKADIERLYEFATYRNELYKEDLALGAE  
VSGPALSDAFACRHLTDGLETSSWASDADLPIQLELDLGSPTFDVIELREDLKLQRIAAFHVQVEVDGVWQVEFGSGHTVGY  
KRLRGAAGVVAQKIRVVTIESQALPLLTIKISLYKTPLGSKKEVVELEFAEKSLAVAKGENAYFTVKRRECSGPLEAKISIQP  
GTGVHGVAYQDEIQVLAFQTGETEKSLLTPLYFAGDKTLDLYLNLTVDGQLVDQLQVQVSZ

**ID208 - 4125.12** (SEQ. ID. NO. 175)

ATGCTTGAAAGACTGAAAAGAATACATTATATGTTTTGGATCAGTTTAATTTTTATGATTTTCCCCATCCTGTCTGTAGTGAC  
TGGGTGGCTTTCTGCCTGGCATTATTTGATTGATATTCTATTGTAGTGGCATATTTGGGTGTTTTAACTAAGAGCCAGC  
GCCTATCTTGGCTATATTGGGGCCTCATGCTGACTTATGTAGTTGGGAATACTGCCTTTGTTGCTGTTAATTATATCTGGTTT  
TTCTTTTCCATCCAACTCTCTTAAGTTATCATTTTCAGCGTACGTAGTTTAAAGTCTTTACATGTCTGCACTTTTCTTCTG  
TCAAGTCCTTGTGTGGGCAACTGTTGATTTTTTCAGAGAATCGAAGTTGAGTTTCTATTCTATCTACTTGTAACTCTTACTT  
TTGTCGATTTAATGACTTTTGGATTGGTTTCGATTTCGTATTGTGCGAGGATTGAAAGAAGCTCAGGTCAAGCAAAATGCTCAG  
ATAAATCTATTGCTTGTCTGAAAATGAACGTAGTCGTATCCGTCAGGATTGTCATGATAGTCTGGGACATACCTTTGCTATGCT  
GAGTGTCAAGACAGATTTAGCCTTGCAGTTATTTTCAGATGGAGGCTTATCCACAGGTGGAAGGAATTAAAGAATTCACC  
AGATCAGCAAGGATCCATGA

(SEQ. ID. NO. 159)

MLERLKRIMFWISLIFMIFPILSVVTGWSAWHLLIDILFVAYLGVLTTKSQRLSWLYWGLMLTYVVGNTAFVAVNYIWF  
FFFLSNLLSYHFSVRSLSLHVWTFLLAQVLVVGQLLIFQRIEVEFLFYLLVILTFVDLMTFGLVIRIVEDLKEAQVKQNAQ  
INLLAENERSRIGQDLHDSLGHTFAMLSVKTDLALQLFQMEAYPQVEKELKEIHQISKDPZ

**ID209 - 4126.3** (SEQ. ID. NO. 176)

ATGAATGATAAGTTAAAAATCTTCTTGTGCTAGGAGTATTTTTCTAGCCATAACCGGTTTCTATGTTCTATTGATACGAAA  
TGCAGGGCAGACAGATGCCTCGCAAATGAAAAGGCGGCAGTTAGCCAAGGAGGAAAAGCAGTGAAAAAACAGAAATTAGTA  
AAGACCGAGACTTGCACGAAATTTATCTAGCTGGAGGTTGTTTCTGGGGAGTGGAGGAATATTTCTCAGTGTTCCTCCGGGGTG  
ACGGATGCGGTTTTCAGGCTATGCCAAATGGTAGAGGAGAAACCAAGTACGAATGATTAACCAACAGGTCTGTCAGGAAC  
CGTCATGTCACTTATGATGCCAAGCAAAATTTCTCTCAAGGAAATCCTGCTTCACTATTTCCGCATTATCAATCCAACAGCA  
AAAATAAACAAGGAAATGATGTGGGGACCCAGTACCGTACTGGTGTATTACACAGATGACAAGGATTGGAAGTGATTAA  
CAAGTCTTTGATGAGGTGGCTAAGAAATACGATCAACCTCTAGCAGTTGAAAAGGAAAACTTGAAGAATTTTGTGGTGGCTGA  
GGATTACCATCAAGACTATCTCAAGAAAAATCCAAATGGCTACTGCCATATCAATGTTAATCAGGCGGCTATCTGTCATTG  
ATGCCAGCAATATCCAAACCAAGTGATGAGGAATTGAAAAGACCTGTACCTGAGGAGTATGCAGTTACCCAGGAAAAAT  
CAACAGAACGAGCTTTCTCAAAACCGTTACTGGGATAAATTTGAATCCGGTATCTATGTGGATATAGCAACTGGGGAACCTCT  
CTTTTCAACAAAGCAAAATTTGAGTCTGGTGTGGCTGGCTGATTTTACCACCAACCATCAGTCCAGTGTGTGTCACCTACA  
AGGAAGATAAGTCTTACAATATGACGCGTATGGAAGTGCGGAGCCGAGTAGGAGATTCTCACCTTGGGCATGTCTTTACGGAT  
GGTCCACAGGACAAGGGCGGCTTACGTTACTGTATCAATAGCCTCTCTATCCGCTTTATTCCCAAAGACCAATGGAAGAAAA  
AGGcTACGCTTATTTACTAGATTATGTTGATTAA

(SEQ. ID. NO. 160)

MNDKLKIFLLLVFFLAITGFYVLLIRNAGQTDASQIEKAASVSGGKAVKKTEISKDADLHEIYLAGGCFWGVVEEYFSRVPV  
TDAVSGYANGRGETTKYELINQTHAETVHVYDAKQISLKEILLHYFRIINPTSKNKQGNVGTQYRTGVYYTDDKDLVIN  
QVFDEVAKKYDQPLAVEKENLKNFVVAEDYHQDYLLKKNPNGYCHINVNQAAYPIDASKYPKPSDEELKKTLSPEEYAVTQEN  
QTERAFSNRYWDFESGIIYVDIATGEPLFSSKDKFESGCGWPSFTQPISPDVVITYKEDKSYNMTRMEVRSRVGDSHLGHVFTD  
GPQDKGLRYCINSLSIRFIPKQMEKEGYAYLLDYVDZ

**ID210 - 4127.1** (SEQ. ID. NO. 177)

ATGAAAAAGAAATGGATGATTATGCTGCTTCTTCTAATGAATCTGCCGATGACAGTTTCATCTGATAAAGGAGACGGCGG  
TTTCGCTAGTCTGTTTATTCACCAAACTCAGAGGGCTTAATTGGAGCAACTATTCCTGCCTTTGAAGAAAAATATGGTATCAAG  
TAGAACTGATTCAAGCTGGTACTGGAGAACTTTTCAAAAACTAGAGTCAGAAAAAGAGTTCTGTAGCTGATGTTATCTTT  
GGTGGTCTTATACACAAATATACTACCCACGAGAACTCTTTGAAAACTATACTTCAAAAGAAAAATGATAATGTTATCAAGA  
ATATCAAAAACCAACTGGCTACTCTACTCTTATACACTAGATGGTGTGTTTTAATCGTCAACCCGTATTAACATAAAGGCA  
TGAACATCGAAGGATATAACGATCTTTTCAAACCTGAACTAAAAGGAAAAATCGCAACTGCTGACCCAGCAAACTCTTCTAGC  
GCCTTTGCTCAATTAACAAATATGCTACAAGCTCAAGGTGGTTACAAAGATGATAAGGCTTGGTCTTATGTAAAGATCTTTT  
CACACTTATTGATGGTAAAACTCGGTTCAAGTTCATCTAGTGTCTATAAAGTAGTCGTGATGGAGAAATGGCTTGGTCTCT  
CTTATGAAGATCCAGCAGTTAAACTCTTAAATGACGGAGCTTAACATTAAGGTAGTCTATCCAAAGAAGGAACCGTCTTCTTA  
CCTGCTAGTGTCTATCGTTAAAAATCTAAAAATATGAAAAATGCCAAGAAATTTATCGATTTTATTATCTCTCAAGAAGT

ACAAGATACACTTGGTACAACCACTACTAACCGTCCTGTTCTGTAATAATGCTAAACAAGCGAAACATGAAACCAATTGACA  
AAATCAAAACACTCACTGAAGATTATGATTATGTCATCAAGAATAAATCAGATATCGTTAAGAAATACAACGAAGTCTTTACA  
GATATCCAATCTAAACAGTAA

(SEQ. ID. NO. 161)

MKKKWMYYAACSSNESADSSSSDKGDGSLVVYSPNSEGLIGATIPAFEEKYGIKVELIQAGTGELFKKLESEKEVPVADVIF  
GGSYTQYTHGELFENYTSKENDNVIKEYQNTTGYSTPYTLDSVLI VNPDLTKGMNIEGYNDLFKPELKGKIATADPANSSS  
AFAQLTNMLQAQGGYKDDKAWSYVKDLFTLIDGKIGSSSSSVYKVVADGEMAVGLSYEDPAVKLLNDGANIKVVYPKEGTVFL  
PASAAIVKSKNMENAKKPIDFIIISQEVQDTLGTITTTNRPVRKNAKTSENMPIDKIKTLTEDYDVIKNKSDIVKKYNEVFT  
DIQSKQZ

**ID211 - 4127.2** (SEQ. ID. NO. 178)

ATGAGTGAGATCAAAATTATTAACGCCAAAAAATCTACCACGATGTCCCTGTTATTGAGAATTTGAACATTACAATTCCAAA  
AGGAAGTCTCTTTACCCCTTCTTGGAGCTTCAGGATGTGGGAAAAACGACCCTTCTTCGTATGATTGCAGGTTTCAACAGTATCG  
AAGGTGGAGAATTTTACTTTCGATGATACAAAAATCAATAATATGGAACCCAGCAACGCAATATCGGGATGGTTTTCCAAAAC  
TACGCTATTTTCCACATTTGACTGTCCGAGACAACGTTGCTTTTGGTCTTATGCAAAAGAAGGTTCCAAAAGAAGAATTGAT  
TCAACAGACCAACAAGTATCTTGAACATGCAAAATTGCTCAATATGCGGATCGAAAGCCCCGATAAACTCAGTGGTGGACAAAC  
AACCAAGTGTACCTTGGCATGCGCTTAGCGGTTAATCCAAGTGTCTCTCTCATGGACGAGCCACTTAGTAATCTGGAGGCC  
AACTTCGCTTGGATATGCGTCAAGCCATCCGAGAAATCCAACAGCAAGTGGGAATTACAACCTGTTTATGTAACCCACGACCA  
AGAAGAAGCCATGGCTATTTCAAGACCAAAATGCTGTTATGAAAGATGGGGTGATCCAACAAATCGGCCGACCAAAAGAAGCTCT  
ATCATAAAACAGCTAATGAGTTTGTGGCAACCTTTATCGGACGCACAAATATTATCCCTGCCAATCTTGAAAAACGGAGCGAC  
GGCGCTTATATCGTCTTTTCAGATGGCTATGCCCTTCGAATGCCAGCTCTTGATCAGGTTGAGGAGCAAGCTATTTCAATGTAAG  
CATTCGTCGCGAAGAGTTTATCAAAGATGAATCTGGAGATATTGAAGGAATATTAGAGATAGCGTCTATCTTGGACTAAATA  
CGGATTATTTTCAATGAGACAGGTTTTCCTCAAAAATTCAAGTTAGTGAAGAATCAACTTTTGAAGAAGATCTACAAAAAGGC  
AATCGTATTCGTCTACGAATCAATACGCCAAAAATTAACATCTTTCTGCAGATGGTTCCTCAAAACCTGATAAAAGGAGTCAA  
CCATGGAACGTAA

(SEQ. ID. NO. 162)

MSEIKIINAKKIYHDPVPIENLNITIPKGSFLTLLGASGCGKTTLLRMIAGFNSIEGGEFYFDDTKINNMEPSKRNIGMVFNQ  
YAFPHLTVRDNLVAFGLMQKVPKEELIQQTNKYLELMQIAQYADRKPDKLSGGQQQVRVTLACALAVNPVLLMDEPLSNLEA  
KLRLDMRQAIRESIQHEVGITTVYVTHDQEEAMASDQIAVMKDGVIQOIGRPKELYHKPANEFVATFIRGTNIIPANLEKRS  
GAYIVFSDGYALRMPALDQVEEQAIHVSIRPEEFIKDESGDIEGTIRDSVYLGNTDYFIETGFASKIQVSEESTFEEDLQKG  
NRIRLRINTQKLNIFISADGSQNLIKGVNHGTZ

**ID212 - 4136.1** (SEQ. ID. NO. 179)

ATGAAGAAAAAATTATTGGCAGGTGCCATCACACTATTATCAGTAGCAACTTTAGCAGCTTGTTCGAAAGGGTCAGAAGGTGC  
AGACCTTATCAGCATGAAAGGGGATGTCTATTACAGAACATCAATTTTATGAGCAAGTGAAAAGCAACCCTTCAGCCCAACAAG  
TCTTGTAAATATGACCATCAAAAAGTTTTTGAAAAACAATATGGCTCAGAGCTTGATGATAAAGAGGTGATGATACTATT  
GCCGAAGAAAAACAATATGGCGAAAACTACCAACGCTGCTTGTCAACAAGCAGGTATGACTCTTGAAACACGTAAAGCTCA  
AATTCGTACAAGTAAATTAGTTGAGTTGGCAGTTAAGAAGGTAGCAGAAGCTGAATTGACAGATGAAGCCTATAAGAAAGCCT  
TTGATGAGTACACTCCAGATGTAACGGCTCAAAATCATCCGCTCTTAATAATGAAGATAAGGCCAAAGAAGTTCTCGAAAAAGCC  
AAGCGAAGGTGCTGATTTTGCTCAATTAGCCAAAGATAATTCAACTGAGAAAAACAAGAAAGAAATGCTGGAGAAATTAC  
CTTTGATTCTGCTTCAACAGAAGTACCTGAGCAAGTCAAAAAAGCCGCTTTTCGCTTTAGATGTGGATGGTGTCTCTGATGTGA  
TTACAGCAACTGGCACACAAGCCTACAGTAGCCAATATTACATTGTAAAACTCACTAAGAAAAACAGAAAAATCATCTAATATT  
GATGACTCAAAAGAAAAATTAAAACTGTTATCTTGACTCAAAAACAATAATGATTCAACATTTGTTCAAAGCATTATCGGAAA  
AGAATTGCAAGCAGCCAATATCAAGGTTAAGGACCAAGCCTTCCAAAATATCTTTACCCAATATATCGGTGGTGGAGATTCAA  
GCTCAAGCAGTAGTACATCAAACGAATAG

(SEQ. ID. NO. 163)

MKKKLLAGAITLLSVATLAACSKGSEGADLISMKGDVITEHQFYEQVKSNPQAQVLLNMTIQKVFKEQYSELDDKEVDDTI  
AEEKKQYQENYQRVLSQAGMTLETRKAQIRTSKLVELAVKKVAEAELEDEAYKKAFFDEYTPDVTAQIIRLNNEDKAKEVLEKA  
KAEGADFAQLAKDNITDEKTKENGGEITFDSASTVEPQVKKAFALDVGSDVITATGTQAYSSQYIVKLTKKTEKSSNI  
DDYKEKLKTVILTQKQNDSTFVQSIIGKELQANIKVKDQAFQNIPTQYIGGGDSSSSSSTSNEZ

**ID213 - 4137.3** (SEQ. ID. NO. 180)

ATGAAAAAATATTAACAATATGTAACCTTAGGTACTGTAGTGGTATTATCAGCATTTGTTGCTAACTCAGTTGCAGCTCA  
GGAGACTGAAACTTCTGAAGTATCAACACCAAGGTTGGTGCAACCTGTTGCACCAACGACTCCGATTTCCGGAAGTACAACCTA  
CATCGGATAACTCTTCGGAAGTTACTGTACAACCTCGAACAGTTGAAACTACTGTTAAGGATCCATCTTCTACAGCGGAAGAA  
ACTCGTGTCTTAGAAAAAATAATGTTACTTTAACAGGGGGCGGAGAAAAATGTTACTAAAGAGTTAAAGGATAAAATTTACTAG  
CGGTGACTTTACTGTAGTGATTAAGTACAATCAGTCAAGTGAGAAAGGCTTACAAGCTCTGTTTGGAAATATCTAATTTCAAAC  
CCGGTCAACAAAATAGTTATGTAGATGTGTTCTTAGAGACAATGGTGAGTTGGGGATGGAAGCGCGTGACTCTTCTCCAAT  
AAAAATAACCTAGTATCCAGACCTGCTTCACTTTGGGGTAAAGTACAACAAGAGGCTGTGACTAACACTGTGTGAGTAAGC  
AGATTCAAGTCAAAAAACATATTTCTTATACGCAAAATGGTACAAAAGTAGTAGAAAAAGAAAGTGGATAATTTCTTAAACATCA  
AGGATATTAAGGTATTGATTAATATATGCTTGGGGGAGTGAACGCTGCAGGAAAAACGGCGTTTGGTTTAAACGGAACACTA  
GAAAATATCAAATTTCTTAATAGTGCATTGGATGAAGAACTGTTAAAAAGATGACAACAAACGCTGTTACTGGACATTTAAT  
TTATACGGCTAATGATACAACAGGTTCTAATCTTTCGGTAAATTTCAAGTCTGTATACCTTTTAGCAATGGTGGGATTTTCAA  
GCATTGACGCTCGTTACGGTGAACCTCATGATTTCTTGAATAAAATTAATATTGCTACAAGTTATAGTGATGATAATGGTAAG  
ACATGGACTAAACCAAAATTAACATTGGCATTCGATGATTTGCGCCAGTACCATTAGAATGGCCTCGTGAAGTTGGTGGACG  
TGACTTACAAATCAGCGGTGGTGCACCTTATTTGACTCTGTTATTTGTTGAAAAAAGAAACAACAAGTACTCATTTGTTGCTG  
ATGTGATGCTGCTGGAGTAAGTTTTAGAGAAGCAACTAGAAAAGATTGAGTTATAAAACAATTTGATGGTAATTATTACCTT  
AAATTAAAGGAAACAAGGTGATACTGATTACAATTATACTATTCGTGAGAATGGTACTGTATACGACGATCGTACCAACAGACC  
AATGAATTTTCAGTAGATAAAAAATTTCCGTATTAAACAAAATGGTAATTATTGACGGTAGAGCGG

(SEQ. ID. NO. 164)

MKKNIKQYVTLGTVVVLSAFVANSVAAQETETSEVSTPKLVQVPVAPTPPISEVQPTSDNSSEVTQVQRTVETTVKDPSSSTAEETPVLEKNVTLTGGENVTKEKLDKFTSGDFTVVIKYNQSSSEKGLQALFGISNSKPGQONSVDVFLRDNELGMEARDTSSNKNLVSRRPASVWGKYQEAVTNTVAVVADSVKKTYSLYANGTKVVEKKVDNPLNFKDIDYMLGGVVRAGKTAFGFNGTL ENIKFNSALDEETVKKMTTNAVGTGHLIYTANDTTGSNYFRI PVLYTFSNGRVFSSIDARYGGTHDFLNKINIATSYSDDNKG TWTKPKLTLAFDDFAPVPLEWPREVGGRDLQISGGATYIDSVIVEKKNQVLMFADVMPAGVSFREATRKDSGYKQIDGNYYL KLRKQGD TDYNTI RENGT VYDDRTNRPTFESVDKNFGIKQNGNYLTVER

**ID214 - 4185 (SEQ. ID. NO. 181)**

ATGAAAAAATTTAGCCTATTACTAGCTATCCTACCATTTTGGTTGCCTGTGAGAATCAAGCTACACCCAAAGAGACTAGCGC TCAAAGACAATCGTCCTTGCTACAGCTGGCGACGTGCCACCATTTGACTACGAAAGACAAGGGCAATCTGACAGGCTTTGATA TCGAAGTTTTAAAGGCAGTAGATGAAAACTCAGCGACTACGAGATTCAATCCAAAGAACCCTGGGAGAGCATCTTCCCA GGACTTGATTCTGGTCACTATCAGGCTGCGGCCAATAACTTGAGTTACACAAAAGAGCGTGCTGAAAAATACCTTTACTCGCT TCCATTTCCAACAATCCCCCTCGTCCTTGTCAGCAACAAGAAAAATCCTTTGACTTCTCTTGACCAGATCGCTGGTAAAACAA CACAAGAGGATACCGGAACCTTCTAACGCTCAATTCAATAAAGTGAATCAGAAACACACTGATAATCCCGCTACAATTAAT TTTTCTGGTGAGGATATTGGTAAACGAATCTAGACCTTGCTAACGGAGAGTTTGATTTCTAGTTTTTGACAAGGTATCCGT TCAAAGATTATCAAGGACCGTGGTTTAGACCTCTCAGTCGTTGATTTACCTTCTGCAGATAGCCCCAGCAATTATATCATTT TCTCAAGCGACCAAAAAGAGTTTTAAAGAGCAATTTGATAAAGCGCTCAAAGAACTCTATCAAGACGGAAACCTTGAAAACTC AGCAATACCTATCTAGGTGGTTCTTACCTCCAGATCAATCTCAGTTACAATAA

**(SEQ. ID. NO. 165)**

MKKFSLLLAILPFLVACENQATPKETSAQKTI VLATAGDVPPFDYEDKGNLTGFDIEVLKAVDEKLSDYEIQFQRTAWESIFP GLDSGHYQAAANNLSYTKERAKEYLYSLPISNNPLVLVSNNKNPLTSLDQIAGKTTQEDTGTSTNAQFINNWNQKHTDNPATIN FSGEDIGKRILDLANGEFDLFLVDKVSQKI IKDRGLDLSVVDLPSADSPSNYIIFSSDQKEFKEQFDKALKELYQDGTLEKL SNTYLGGSYLPDQSQLQZ

**ID215 - 4211.1 (SEQ. ID. NO. 182)**

ATGAAAAAATAGTTTATATATCATATCCTCACTCTTTTGGCTTGTGTCTTATTTGTCTATGCTACGGCGACGAATTTTCA AAACAGTACCAGTGCTAGGCAGGTAAAAACGGAAACCTATACCTAATACAGTAACAAATGTCCCTATTGACATACGCTATAATA GTGATAAGTATTTTATTAGCGGTTTTGGCTCAGAAAGTATCAGTGGTCTTGACTGGTGCAAATCGCCTATCGCTAGCTAGTGAA ATGCAAGAAAGTACACGTAAATTCAAGGTTACTGCTGACCTAACAGATGCCGGTGTGGAACGATTGAAGTTCCTTTGAGCAT TGAAGATTTACCAATGGGCTGACCGCTGTGGCGACTCCGCAAAAATACAGTCAAGATTGGTAAGAAGGCTCAGAAGGATA AGGTAAAGATTGTACAGAGATTGACCCCTAGTCAAATTGATAGTCCGGGTACAAATTGAAAATGTGATGTTGATGATAAAGAA GTGTCTATTACGAGTGACCAAGAGACATTGGATAGAATTGATAAGATTATCGCTGTTTGCCAACCTAGCGAACGTATAACAGG TAATTACAGTGGTTGATGACCTTTGACAGGCAATCGACCGCAATGGTGTGTCTTACCGGCAGTTATCACTCCGTTTGATACAA TAATGAAGGTGACTACAAAACCAAGTACGACCAAGTTCAAGCATCAAATTCAGTACAAGCAGTTTCATCGGAGACATCTTCG TCAACGAAAGCAACTAGTTCAAAAACGAATTA

**(SEQ. ID. NO. 166)**

MKKNSLYIISLFFACVLFVYATATNFQNSTSARQVKTEYTNVTNVPIDIRYNSDKYFISGFASEVSVVLTGANRLSLASE MQESTRKFKVTADLTAGVGTIEVPLSIEDLPNGLTAVATPKITIVKIGKKAQDKVKIVPEIDPSQIDSRVQIENVMVSDKE VSITSDQETLDRIDKI IAVLPTSERITGNYSGSVPLQAI DRNGVVLPAVITPFDTIMKVTTKPVAPSSSTSNSSTSSSSETSS STKATSSKTNZ

**ID216 - 4127.3 (SEQ. ID. NO. 183)**

ATGTTGATTGGCGAAGGGTATCGGACTTTCCTGTCTGATTATATACCAATTTATTAGCGAGGTTGGAGGAAATCTGCTTT TGCAATTATGGCGATTATCATTGCCTTGGCAATTTTCCTTATCCAAAACACATTGCAAACCGCTACAGTTTCAGCATGAATC TGCTCCATCCAATTGAGCCTAAAAAACTACAAAAGGAAAAATGGCTGCCATTTATGCAACAGTCTACGGAATTATCTTTATC TCTGTTTACCTCAATCTACTTAATTTATACCTCTTCTTAAAAACATCAGGTATGGTATCTGTTAAAGGTTATTCTCCAAA CAGTTACAAGGTAGCTTTCCATCGTATGGGATCTGCTATTTTCAATACCATTCTGATCCCTTTGATTGCCTTAGTTCTAGTTG TTCTATTTGCGACATTATCTCCTACCTAGCCGTTAGAAAACGGAATTTGTTTACAACTTAATTGACAGCCTCAGTATGGTA CCTTATATTGTACCAGGAACCGTTCTAGGGATTGCCTTCATTCTCTCTTCAATACTGGTCTATTTGGAAGTGGATTCTTAT GATTACAGGGACTGCTTTCATCTTGATTATGTCTCTATCTGCCAGAAGATTACCTTATACTATTCCGTCATCTGTTGCTAGCT TACAACAAATAGCACCAAGTATTGAAGAAGCTGCTGAAAGCTTAGGAAGTAGTCGTCTCAATACCTTTGCTAAGATTACAAC TCAATGATGCTATCTGGTATCATTTCTGGAGCCATCTTATCTTGA

**(SEQ. ID. NO. 167)**

MLIGEGYRTFPVLIYTFISEVGGNSAFAIMAIIIALAIFLIQKHIANRYSFSMNLHPIEPKKTTKGKMAIYATVYGIIFI SVLPQIYLIYTSFLKTSGMVSVKGYSPNSYKVAFHRMGS AIFNTIRIPLIALVLVLFATFISYLAVRKRNLFTNLIDSLSMV PYIVPTVLGIAFISFNTGLFGSGFLMITGTAFILIMSLSARRLPYTIRSSVASLQQIAPSIEEAAESLGSSRLNTFAKIT PMMLSGIISGAILSZ

Table 4

**ID301** (SEQ. ID. NO. 196)

ATGAATAAGAAAAAATGATTTTAAACAAGTCTAGCCAGCGTCGCTATCTTAGGGGCTGGTTTTGTTACGTCTCAGCCTACTTT  
TGTAAGAGCAGAAGAATCTCCACAAGTTGTCGAAAAATCTTCATTAGAGAAGAAATATGAGGAAGCAAAAGCTGATA  
CTGCCAAGAAAGATTACGAAACGGCTAAAAAGAAAGCAGAAGACGCTCAGAAAAAGTATGAAGATGATCAGAAGAGAACTGAG  
GAGAAAGCTCGAAAAGAGCAGAAGCATCTCAAAAATGAATGATGTGGCGCTTGTGTTCAAAATGCATATAAAGAGTACCG  
AGAAGTTCAAAATCAACGCTAGTAAATATAAATCTGACGCTGAATATCAGAAAAAATTAACAGAGGTCGACTCTAAAATAGAGA  
AGGCTAGGAAAGAGCAACAGGACTTGCAAAAATAATTTAATGAAGTAAGAGCAGTTGTAGTTCTGAAACCAATGCGTTGGCT  
GAGACTAAGAAAAAGCAGAAGAAGCTAAAGCAGAAGAAAAAGTAGCTAAGAGAAAAATATGATTATGCAACTCTAAAGGTAGC  
ACTAGCGAAGAAAGAGTAGAGGCTAAGGAACTTGAAATTGAAAAAATTCAATATGAAATTTCTACTTTGGAACAAGAAGTTG  
CTACTGCTCAACATCAAGTAGATAATTTGAAAAAATTCTTGTGCTGGTGGGATCCTGATGATGGCACAGAAGTTATAGAAGCT  
AAATTAAGAAAAAGGAGAAGCTGAGCTAAACGCTAAACAAGCTGAGTTAGCAAAAAAACAACAGAAGCTTGAAAAAATTCTTTGA  
CAGCCTTGATCCTGAAGGTAAGACTCAGGATGAATTAGATAAAGAAGCAGAAGAAGCTGAGTTGGATAAAAAAGCTGATGAAC  
TTCAAAATAAAGTTGCTGATTTAGAAAAAGAAATAGTAACCTTGAAATATTACTTGGAGGGGCTGATCCTGAAGATGATACT  
GCTGCTCTTCAAAATAAATTAGCTGCTAAAAAGCTGAGTTAGCAAAAAACAACAGAAGCTTGAAAAAATTCTTGACAGCCT  
TGATCCTGAAGGTAAGACTCAGGATGAATTAGATAAAGAAGCAGAAGAAGCTGAGTTGGATAAAAAAGCTGATGAACCTTCAAA  
ATAAAGTTGCTGATTTAGAAAAAGAAATAGTAACCTTGAAATATTACTTGGAGGGGCTGATTTCTGAAGATGATACTGCTGCT  
CTTCAAAATAAATTAGCTACTAAAAAGCTGAATTGGAAAAAAATTCAAAAGAATTAGATGCAGCTCTTAATGAGTTAGGCC  
TGATGGAGATGAAGAAGAACTCCAGCGCGCGCTCCTCAACAGAGCAACAGCTCCTGCACCAAAACAGAGCAACAGCTC  
CAGCTCCAAAACAGAGCAACAGCTCCTGACCAAAACAGAGCAACAGCTCCTGACCAAAACAGAGCAACAGCTCCTCA  
GCTCCAAAACAGAGCAACAGCTAAGCGCGAGAAACAGCTGAAGAGCTTCACTCAACAGAAAAACAGGCACTCCAAAAAC  
AGGCTGGAACAAGAAACGGTATGTGGTATTTCTACAATCTGATGGTTCAATGGCAATAGGTTGGCTCCAAAAACAACGGTT  
CATGGTACTACTAAACGCTAACGGCGCTATGGCAACAGGTTGGGTGAAGATGGAGATACCTGGTACTATCTTGAAGCATCA  
GGTGCTATGAAGCAAGCAATGGTTCAAGTATCAGATAAAGTGGTACTATGTCACAGCAATGGCGCATGGCGACAGGCTG  
GCTCCAATACAATGGCTCATGGTACTACCTCAACGCTAATGGTGATATGGCGACAGGATGGCTCCAATACAACGGTTTATGGT  
ATTACTCAACGCTAATGGTGATATGGCGACAGGATGGGCTAAGCTCAACGGTTTATGGTACTACCTAAACGCTAACGGTGCT  
ATTGGCTAAGGTTGGGCTAAGCTCAACGGTTTATGGTACTACCTAAGCTCAACGGTTCAATGGCAAGCTTGGGTGGAAGA  
TGGAGATACCTGGTACTATCTTGAAGCATCAGGTGCTATGAAAGCAAGCAATGGTTCAAGTATCAGATAAATGGTACTATG  
TCAATGGCTTAGGTGCCCTTGCAGTCAACACAACCTGTAGATGGCTATAAAGTCAATGCCAATGGTGAATGGGTTAA

## (SEQ. ID. NO. 184)

MNKKKMLTSLASVAILGAGFVTSQPTFVRAEESPVVVEKSSLEKKYEEAKAKADTAKKDYETAKKKAEDAQKKYEDDQKRTE  
EKARKEAEASQKLNDAVALVQNAKEYREVNQORSKYKSDAEYQKLETEVDSKIEKARKEQDQLQNFNEVRVVVPEPNALA  
ETKKKAEAEAKAEKVAKRKYDYATLKVALAKKEVEAKELEIEKLQYEIISTLEQEVATAQHQVDNLKKLLAGADPDDGTEVIEA  
KLKKGAEELNAKQAEALAKKQTELEKLKLLDSDPEGKTQDELDEKEAEELDKKADELQNKVADLEKEISNLEILLGGADPEDDT  
AALQNKLAAKKAEALAKKQTELEKLKLLDSDPEGKTQDELDEKEAEELDKKADELQNKVADLEKEISNLEILLGGADSEDDTAA  
LQNKLATKAELEKTQELDAALNELGPDGDEETPAAPAPQEPQAPAPKPEQAPAPKPEQAPAPKPEQAPAPKPEQAPAP  
APKPEQAPKPEKPAEETPQEPKPATPKTGWKQENGWYFYNTDGSMAIGWLQNGSWYYLNANGAMATGWVKDGDWYYLEAS  
GAMKASQWFKVSDKWYVYNSNGAMATGWLQYNGSWYYLNANGDMATGWLQYNGSWYYLNANGDMATGWAKVNGSWYYLNANGA  
MATGWAKVNGSWYYLNANGSMATGWVKDGDWYYLEASGAMKASQWFKVSDKWYVYVNLGALAVNTTVDGYKVNANGEWVZ

**ID302** (SEQ. ID. NO. 197)

ATGTTTGCATCAAAAAGCGAAAGAAAGTACATTATTCAATTTCGTAAATTTAGTGTGGAGTAGCTAGTGTAGTTGTTGCCAG  
TCTTGTATGGGAAGTTGGTTTCATGCGACAGAGAACGAGGAGCTACCCAAGTACCCACTTCTTCTAATAGGGCAAATGAAA  
GTCAGGCAGAACAGGAGAACCACTAAAAAATCGATTAGAACGAGATAAGGCAAGGAAAGAGGTCGAGGAATATGTAAAA  
AAAATAGTGGGTGAGAGCTATGCAAAATCACTAAAAAGCAGACATACAATTAAGTGTAGCTCTAGTTAACGAGTTGAACAACAT  
TAAGAACGAGTATTTGAATAAATAGTTGAATCAACTCAGAACGCAACTACAGATACTGATGATGATGATGATGATCAAAAG  
TAGATGAAGCTGTGTCTAAGTTTGAAGAGGACTCATCTTCTTCTGTCAGGTTTCAAGCTCTTCCACTAAACCGGAAGCTTCAGAT  
ACAGCGAAGCCAAACAAGCCGACAGAACAGGAGAAAGGTAGCAGAAGCTAAGAAGAAGGTTGAAGAAGCTGAGAAAAAAGC  
CAAGGATCAAAAAGAAGAAGTTCGTCTAATACCAAGCAATTACTTACAAAACGCTTGAAGTTGCTGAGTCCGATG  
TGGAAGTTAAAAAGAGCGGAGCTTGAAGCTAGTAAAAAGTAAAGCTTAACGAACCTCGAGACGAGCAAAAATTAAGCAAGCAGAA  
GCGGAAGTTGAGAGTAAACAAGCTGAGGCTACAAGGTTAAAAAATCAAGACAGATCGTGAAGAAGCAGAAGAAGAAGCTAA  
ACGAAGAGCAGATGCTAAGAGCAGGTAACCAAGGGGCGGCAAAACGAGGAGTTCTTGGAGAGCTAGCAACACCTGATA  
AAAAAGAAATGATGCGAAGTCTTCAAGTTCTAGCTGAGTGAAGTAAAGCTCTTCCAAAGCCATCCTTCAAGCCAGCAAAAAG  
GTAGCAGAAGCTGAGAAGAAGGTTGAAGAAGCTAAGAAAAAGCCGAGGATCAAAAAGAAGAAGATCGCCGTAACCTACCAAC  
CAATACTTACAAAACGCTTGAAGTTGAAATTGCTGAGTCCGATGTGGAAGTTAAAAAGCGGAGCTTGAAGTAAAGAGG  
AAGCTAAGGAACCTCGAAACGAGGAAAAAGTTAAGCAAGCAAAAGCGGAAGTTGAGAGTAAAAAAGCTGAGGCTACAAGGTTA  
GAAAAAATCAAGACAGATGCTAAAAAAGCAGAAGAAGCTTAAACGAAAGCAGCAGAAGAAGATAAGTTAAAGAAAAAAC  
AGCTGAACAACCAACAGCGCGGCTCCAAAAGCAGAAAAACAGCTCCAGCTCCAAAACAGAGAAATCCAGCTGAACAAC  
CAAAAGCAGAAAAACAGCTGATCAACAAGCTGAAGAAGACTATGCTCGTAGATCAGAAGAAGAATATAATCGCTTGACTCAA  
CAGCAACCGCCAAAAAATGAAAAACAGCAACCACTTACTCCAAAAACAGGCTGGAACAAGAAAAACGGTATGTGGTACTT  
CTACAATACTGATGGTTCAATGGCGACAGGATGGCTCCAAAACAATGGCTCATGGTACTACCTCAACAGCAATGGCGCTATGG  
CGACAGGATGGCTCCAAAACAATGGTTTATGGTACTATTAACGCTAATGGTTCAATGGCAACAGGATGGCTCCAAAACAAT  
GGTTTATGGTACTACTAAACGCTAATGGTTTCAATGGCGACAGGATGGCTCCAAATACAATGGCTCATGGTACTACCTAAACGCTAATGGTGATATGGCGACAGGTT  
GGGTGAAAGATGGAGATACCTGGTACTATCTTGAAGCATCAGGTGCTATGAAAGCAAGCCAATGGTTCAAAGTATCAGATAAA  
TGGTACTATGTCAATGGCTCAGGTGCCCTTGCAGTCAACACAACCTGTAGATGGCTATGGAGTCAATGCCAATGGTGAATGGGT  
AAACTAA

## (SEQ. ID. NO. 185)

MFASKSERKVHYSIRKFSVGVASVVVASLVMGSVVHATENEGATQVPTSSNRANESQAEQGEQPKKLDSEDKARKEVEEYVK  
KIVGESYAKSTKKRHTITVALVNELNNIKNEYLNKIVESTSESQILMMESRSKVDEAVSKFEKDDSSSSSSSDSSTKPEASD  
TAKPNKPTPEKVAEAKKKVEAEKKAKDKQKEEDRRNYPTTYKTLELEIAESDVEVKKAELVVKVKANEPREDEQIKQAE  
AEVESQAEATRLKKIKTDREEAEAEAKRRADAKEQKPKGRAKRGVPELATPDKKENDAKSSDVGEETLPSPLKPEKK  
VAEAEKKVEAEAKKEDQKEEDRRNYPTNTYKTLELEIAESDVEVKKAELVKEEAKPEPRNEEKVKQAKAEVESKKAETRL  
EKIKTDRKKAEEAEAKRAAEDKVKEKPAEQPAPAPKAEPAPAPKPENPAEQPAEKPADQAEEDYARRSEEEYNRLTQ

QPPKTEKPAQPSTPKTGWKQENGWYFYNTDGSMTGWLQNNGSWYYLNSNGAMATGWLQNNGSWYYLNSNGMATGWLQNN  
GSWYYLNSNGMATGWLQYNGSWYYLNSNGMATGWLQYNGSWYYLNSNGDMATGWVKDGDWTWYLEASGAMKASQWFKVSDK  
WYYVNGSGALAVNTTVDGYGVNANGWVNZ

**ID303**(SEQ. ID. NO. 198)

ATGGTAAAAAGACGTATAAGGAGAGGGACGAGAGAACCCTGAAAAAGTTGTTGTTCTTGAGCAATCATCTATTCTCTTCGTATCC  
TGTATCTGTTTACATCTAACCAAGGAACAGATGTAGCAGTAGAACAGCTAAAGCAGTTGCTCCAACAACAGACTGGAACAAG  
AAAAATGGTATGTGGTATTTTATAAATACTGATGGTTCCATGGCAACAGGTTGGGTACAAGTTAATAGTTTCATGGTACTACCTC  
AACAGCAACGGTTCTATGAAAGTCAATCAATGGTTCCAAGTTGGTGGTAAATGGTATTATGTAAATACATCGGGTGAGTTAGC  
GGTCAATACAAGTATAGATGGCTATAGAGTCAATGATAATGGTGAATGGGTGCGTTAA

## (SEQ. ID. NO. 186)

MVKRRIRRGRTREPEKVVVPEQSSIPSYPVSVTSNQGTDAVEPAKAVAPTDDWKQENGWYFYNTDGSMTGWVQVNSSWYYL  
NSNGSMKVNQWFQVGGKYYVNTSGELAVNTSIDGYRVNDNGEWVRZ

**ID304**(SEQ. ID. NO. 199)

CTGAATACAAGTTTGTTCATGCTGCTGATGGGATTCAATATGTCAGAGATGATACTAGAGATAAAGAAGAGGGAATAGAGTA  
TGATGACGCTGACAATGGGGATATTATTGTAAAAGTAGCGACTAAACCTAAGGTAGTAACCAAGAAAAATTTCAAGTACGCGAA  
TTCGTTATGAAAAAGATGAAACAAAAGACCGTAGTGAAAAATCCTGTTACAATTGATGGAGAGGATGGCTATGTAACACGACA  
AGGACCTACGATGTTAATCCAGAGACTGGTATGTTACCGAACAGGTTACTGTTGATAGAAAAGAAGCCACGGGATACAGTTAT  
CAAAGTTCAGCTAAAAGCAAGGTTGAAGAAGTTCTTGTTCATTGCTACTAAATATGAAGCAGACAAATGACCTTTCTGCAG  
GACAGAGCAAGAGATTACTCTAGGAAAGAAATGGGAAACAGTTACAACGATAAATTATAATGTAGATGGAAGAGTTGGACAA  
GTAACGTAGAGTACTTTAAGTCAAAAAAAGACTCTCAAACAAGAGTTGTTAAAAAAGAACCAAGCCCCAAGTTCTTGTCCA  
AGAAATTCGAATCGAACAGAAATATCTCGATGGCCCAACTCTTGATAAAAGTCAAGAAGTAGAAGAAGTAGGAGAAATTGGTA  
AATTACTCTTACTACAATCTATACTGTAG

## (SEQ. ID. NO. 187)

LNTSFVHAADGIVYRDDTRDKEEGIEYDDADNGDIIVKVATKPKVVTKKISSSTRIRYEKDETKDRSENPTIDGEDGYVTTT  
RTYDVPETGYVTEQVTVDRKEATDTVIKVPKSKVEEVLVPFATKYEADNDLSAGQEIEITLGKNGKTVTTITYNVDDGKSGQ  
VTESTLSQKKDSQTRVVKRTRKQVLVQEIPIETEYLDGPTLDKSQEVVEEVEIGKLLLLQSILZ

**ID305** (SEQ. ID. NO. 200)

ATGAAGCTTTTGAAAAAATGATGCAAAATCGCACTAGCCACATTTTCTTCGGTTTGTGTAGCGACAAATACAGTATTTGCAGA  
TGATTCGAAGGATGGCAGTTTGTCCAAGAAAAATGGTAGAACCTACTACAAAAAGGGGGATCTAAAAGAAACCTACTGGAGAG  
TGATAGATGGGAAGTACTATTATTTTGATCCTTTATCCGGAGAGATGGTTGTTCGGCTGGCAATATATACCTGCTCCACACAAG  
GGGGTTACGATTGGTCTCTCTCCAAGAATAGAGATTGCTCTTAGACCAGATTGGTTTATTTTGGTCAAGATGGTGTATTACA  
AGAATTTGTTGGCAAGCAAGTTTGTAGAAGCAAAACTGCTACGAATACCAACAACATCATGGGGAAGAATATGATAGCCAAG  
CAGAGAAACGAGTCTATTATTTTGAAGATCAGCGTAGTTATCATACTTTAAAAACTGGTTGGATTATGAAGAGGGTCAATTGG  
TATTATTTACAGAAGGATGGTGGCTTTGATTTCGCGCATCAACAGATTGACGGTTGGAGAGCTAGCACGTGGTTGGGTAAAGGA  
TTACCTCTTACGTATGATGAAGAGAAGCTAAAAGCAGCTCCATGGTACTATCTAAATCCAGCAACTGGCATTATGCAACAG  
GTTGGCAATATCTAGGTAATAGATGGTACTACCTCCATTGCTCAGGAGCTATGGCAACTGGCTGGTATAAGGAAGGCTCAACT  
TGGTACTATCTAGATGCTGAAAATGGTGATATGAGAACTGGCTGGCAAAACCTTGGGAACAAATGGTACTATCTCCGTTTCATC  
AGGAGCTATGGCAACTGGTTGGTATCAGGAAAGTTGCACTTGGTACTATCTAAATGCAAGTAATGGAGATATGAAAAACAGGCT  
GGTTCCAAGTCAATGGTAACTGGTACTATGCCTATGATTGAGTGTCTTTAGCTGTTAATACCACAGTAGGTGGTTACTACTTA  
AACTATAATGGTGAATGGGTTAAGTAA

## (SEQ. ID. NO. 188)

MKLLKMMQIALATFFFLATNTVFADDSEGWQFVQENGRYYKKGDLKETYWRVIDGKYYYFDPLSGEMVVGWQYIPAPHK  
GVTIGPSPRIEIALRPDWFYFGQDGVLEFVGKQVLEAKTATNTNKHGEEYDSQAEKRVYFYFEDQRSYHTLKTGWIYEEGHW  
YYLQKDGGFDSRINRLTVGELARGWVKDYPLTYDEEKLKAAPWYYLNPATGIMQTGWQYLGNRWYYLHSSGAMATGWYKEGST  
WYYLDAENGDMRTGWQNLGNKWWYLRSSGAMATGWYQESSTWYYLNASNGDMKTGWQVNGWYAYDSGALAVNTTVGGYYL  
NYNGEWVKZ

**ID306**(SEQ. ID. NO. 201)

TTGGCTGGTAGATATGGTTCTGCTGTTTCACTGTACAGAAGTGACTGCCTCAAACCTTTCAACAGTTAAAACCTAAAGCTACGGT  
TGTAGAAAAACCACTGAAAGATTTTAGAGCGTCTACGTCTGATCAGTCTGGTTGGGTGGAATCTAATGGTAAATGGTATTTCT  
ATGAGTCTGGTGTATGTAAGACAGGTTGGGTGAAAAACAGATGGTAAATGGTACTATTGAAATGACTTAGGTGTATGCAGACT  
GGATTGTAAAAATTTCTGGTAGCTGGTATTACTTGAGCAATTCAAGGTGCTATGTTTACAGGCTGGGGAACAGATGGTAGCAG  
ATGGTTCTACTTTGACGGCTCAGGAGCTATGAAGACAGGCTGGTACAAGGAAAATGGCACTTGGTATTACCTTGACGAAGCAG  
GTATCATGAAGACAGGTTGGTTTAAAGTCGGACCACTGGTACTATGCCTACGGTTTCAGGAGCTTTGGCTGTGAGCAACA  
ACACCAGATGGTTACCGTTAAATGGTAAATGGTGAATGGGTAAACTAG

## (SEQ. ID. NO. 189)

LAGRYGSAVQCTEVTASNLSTVKTKATVVEKPLKDFRSTSDQSGWVESNGKWFYFESGDVKTGWVKTDGKYYLNDLGVMQT  
GFVKFSGSWYYLNSNGAMFTGWGTDGSRWFYFDGSGAMKTGWYKENGWYLLDEAGIMKTGWFKVGPWHYAYGSGALAVSTT  
TPDGYRVNNGEWVNZ

**ID307** (SEQ. ID. NO. 202)

ATGAAAAATTTGAAAAAACTATGCAAGTTGGACTGACAGTATTTTCTTTGGTTTGTAGGGACCAGTACAGTATTTGCAGA  
TGATTCGAAGGATGGCAGTTTGTCCAAGAAAAACGGAAGAACCTACTACAAAAAGGGGGACCTCAAAGAAACCTACTGGCGAG  
TGATTGTAGGTAAGTACTATTATTTGATTCTCTATCTGGAGAGATGGTTGTCGGCTGGCAATATATCCCGTTTCCATCTAAA  
GGTAGTACAATTGGTCTTTACCCAAATGGTATCAGATTAGAAGGTTTTCCAAAGTCAGAGTGGTACTACTTCGATAAAAAATGG  
AGTGCTACAAGAGTTTGTGGTTGGAAAAACATTAGAGATTAAAACCTAAAGACAGTGTGGGAAGAAAGTACGGGGAAAAACGTT  
AAGATTGAGAAGATAAAGAAGAGAAGCGTTATTATACGAACATTACTTTAATCAAAATCATTCTTTAGAGACAGGTTGGCTT  
TATGATCAGTCTAAGTATTATCTAGCTAAGACGGAATTAATGGAGAAAACCTACCTTGGTGGTGAAAGACGTCGGGGGTG  
GATAACGATGATTGCACTTGGTACTACCTAGATCCAACAACCTGGTATTATGCAACAGGTTGGCAATATCTAGGTAATAAGT

GGTACTACCTCCGTTCTCAGGAGCAATGGCCACTGGCTGGTATCAGGAAGGTACCACTTGGTATTATTTAGACCACCCAAAT  
GGCGATATGAAAACAGGTTGGCAAAACCTTGGGAACAAATGGTACTATCTCCGTTTCATCAGGAGCTATGGCAACTGGTTGGTA  
TCAAGATGGTTCAACTTGGTACTACCTAAATGCAGGTAATGGAGACATGAAGACAGGTTGGTTCCAGGTCAATGGCAACTGGT  
ACTATGCTTATAGCTCAGGTGCTTTGGCAGTGAATACGACCGTAGATGGCTATTCTGTCAACTATAATGGCGAATGGGTTCCG  
TAA

(SEQ. ID. NO. 190)

MKILKKTMOVGLTVFFFLGLTSTVFADDSEGWQFVQENGRYYKKGLKETYWRVIDGKYYYFDSLSEGMVVGWQYIIPFPSK  
GSTIGPYPNGIRLEGFPKSEWYYFDKNGVLQEFVWGKLTLEIKTKDSVGRKYGEKREDSKKEEKRYTNYFFNQNHSLGTGWL  
YDQSNWYYLAKTEINGENYLGGERAGWINDSTWYYLDPTTGIMQTGWQYLGKWWYYLRSSGAMATGWYQEGTTWYYLDHPN  
GDMKTGWQNLGNKWWYYLRSSGAMATGWYQDGSTWYYLNGNDMKTGWQVNGNWYYAYSSGALAVNTTVDGYSVNYNGEWVR  
Z

**ID308** (SEQ. ID. NO. 203)

ATGAAAAAGAAATTAAGTACTAGTTTAGCACTTGTAGGCGCTTTTGTAGGTTGTCTATGGTATGGGAATGTTTCAGGCTCAAGAAAG  
TTCAGGAAATAAAATCCACTTTATCAATGTTCAAGAAGGTGGCAGTGTATCGGATTATTCTTGAAAGCAATGGACATTTTGCCA  
TGTTGGATACAGAGAGATTATGATTTCCAGATGGAAGTATTCTCGCTATCCATGGAGAGAAGGAATGAAACGCTCTTAT  
AAGCATGTTCTAACAGACCGTGTCTTTCTGCTGTTGAAGGAATGGGTGTCCAAAACTTGATTTTATTTGGTGACCCATAC  
CCACAGTGATCATATTGGAATGTTGATGAATTACTGTCTACCTATCCAGTTGACCGAGTCTATCTTAAGAAATATAGTGATA  
GTCGTATTACTAATTTGAACGCTCTATGGGATAATCTGTATGGCTATGCAAGGTTTACAGACTGTCGAGAAAAGGTGTT  
TCAGTTATTCAAATATCACACAAGGGGATGCTCATTTCAGTTTGGGGACATGGATATTTCAGCTCTATAATTATGAAAAATGA  
AACTGATTCATCGGGTGAATTAAGAAAAATTTGGGATGACAAATCCAATTCCTTGATTAGCGTGGTGAAAGTCAATGGCAAGA  
AAATTTACCTTGGGGGCGATTTAGATAATGTTTCATGGAGCAGAAGACAAGTATGGTCTCTCATTTGAAAAAGTTGATTTGATG  
AAGTTTAATCATCACCATGATACCAACAAATCAAATACCAAGGATTTTCAATAAAAATTTGAGTCCGAGTTGATTGTTCAAAC  
TTCGGATAGTCTACCTTGGAAAAATGGTGTGATAGTGAGTATGTTAATTGGCTCAAAGAACGAGGAATTGAGAGAATCAACG  
CAGCCAGCAAGACTATGATGCAACAGTTTGTGATATTCGAAAAGACGGTTTGTCAATATTTCAACATCCTACAAGCCGATT  
CCAAGTTTTCAGCTGGTTGGCATAAGAGTGCATATGGGAACCTGGTGGTATCAAGCGCTGATTCTACAGGAGAGTATGCTGT  
CGGTTGGAATGAAATCGAAGGTGAATGGTATTACTTTAACCAACCGGTATCTTGTACAGAATCAATGAAAAAATGGAACA  
ATCATTTGGTTCTATTTGACAGACTCTGGTGTCTGCTAAAAATTTGGAAGAAAAATCGCTGGAATCTGGTATTATTTTAAACAA  
GAAACCAGATGGAATTTGGTTGGATTCAAGATAAAGAGCAGTGGTATTATTTGGATGTTGATGGTTCTATGAAGACAGGATG  
GCTTCAATATATGGGGCAATGGTATTACTTTGCTCCATCAGGGGAAATGAAATGGGCTGGGTAAAGATAAAGAAACCTGGT  
ACTATATGGATTCTACTGTTGTCATGAAGACAGGTGAGATAGAAGTTGCTGGTCAACATTATTATCTGGAAGATTTCAGGAGCT  
ATGAAGCAAGGCTGGCATAAAAAGGCAATGATTTGTTTCTACAAGACAGACGGTTTCACGAGCTGTGGGTTGGATCAAGGA  
CAAGGATAAATGGTACTTCTTGAAAGAAAAATGGTCAATTTGTTGAACGGTAAGACACCAGAAGGTTATACTGTGGATTCAA  
GTGGTGCCTGGTTAGTGGATGTTTCGATCGAGAAATCTGCTACAATTTAAACTACAAGTCATTTCAGAAATAAAGAATCCAAA  
GAAGTAGTGAAAAAGGATCTTGAAATAAAGAAACGAGTCAACATGAAAGTGTACAAATTTTCAACTAGTCAAGATTGAC  
ATCCTCAACTTCACAAAGCTCTGAAACGAGTGTAACAACATCGGAATCAGAACAGTAG

(SEQ. ID. NO. 191)

MKKKLTSLALVGAFLGLSWYGNVQAQESSGNKIHFINVQEGGSDAIILESNHFMAMVDTGEDYDFPDGSDSRYPWREGIETSY  
KHLVTRVFRRLKELGVQKLDLILVTHTHSDHIGNVDELLSTYPVDRVYLKKYSDSRITNSERLWDNLYGYDKVLQTAEEKGV  
SVIQNITQGDHAFQFGDMDIQLYNYENETDSSGELKKIWDNNSNLSVVKVNGKKIYLGGLDLDNVHGAEDKYGPLIGKVDLM  
KFNFHHHTNKSNTKDFIKNLSPLIVQTSLSLPWKNVDSYQVNWNLKERGIERINAASKDYDATVPDIRKDGFDVNIISTYKPI  
PSFQAGWHKSAYGNWYQAPDSTGEYAVGWNEIEGEWYFNQGI LLQNWKKWNHWPYLTDSGASAKNWKKIAGIWIYFKN  
ENQMEIGWIQDKEQWYYLDVDGSMKTGWLQYMGQWYYFAPSGEMKMGWVKDKETWYMDSTGVMKTGEIEVAGQHYYLEDSGA  
MKQGWHKANDWYFYKTDGSRVAGWIKDKWYFLKENGQLLVNGKTPGYTVDSSGAWLVDVSIKESATIKTTSHEIKESK  
EVVKKDLNENKETSQHSVTNFTSQDLTSSTSSQSSSVNKSESEQZ

**ID309** (SEQ. ID. NO. 204)

ATGGAAATTAATGTAGTAAATTAAGAACAGATTTGCCTCAAGTCGGCGTGCAACCATATAGGCAAGTACACGCACACTCAAC  
TGGGAATCCGCAATCAACCGTACAGAATGAAGCGGATTATCACTGGCGGAAAGACCAGAATTAGGTTTTTCTCGCACATTG  
TTGGGAACGGTTGCATCATGCAGGTAGGACCTGTTGATAATGGTGCCTGGGACGTTGGGGCGGTTGGAATGCTGAGACCTAT  
GCAGCGGTTGAAGTATTGAAAGCCATTCAACCAAGAAAGAGTTTCATGACGGACTACCGCCTTTATATCGAACTCTTACGCAA  
TCTAGCAGATGAAGCAGTTTGGCGAAAACGCTTGATACAGGAGTTTACGCTGGAATTAACACGCACGAGTATTGACACGAATA  
ACCAACCAAAACCACTCAGACCAGCTTGACCTTATCCATATCTTGCTAAATGGGGCATTAGCCGTGAGCAGTTTAAGCAT  
GATATTGAGAACGGCTTGACGATTGAAACAGGCTGGCAGAAGATGACACTGGCTACTGGTACGTACATTCAGACGGCTCTTA  
TCCAAAGACAAGTTTGAGAAAATCAATGGCACTTGGTACTACTTTGACAGTTTCAGGCTATATGCTTGACAGCGCTGGAGGA  
AGCACACAGAGCGCAACTGGTACTGGTTTCGACAACCTCAGGCGAAATGGCTACAGGCTGGAAGAAAAATCGCTGATAAGTGGTAC  
TATTTCAACGAAGAAGGTGCCATGAAGACAGGCTGGGTCAAGTACAAGGACACTTGGTACTACTTAGACGCTAAAGAAGGCGC  
CATGGTATCAAATGCCTTTATCCAGTCAGCGGACGGAACAGGCTGGTACTACCTCAAACCAGACGGAACACTGGCAGACAAGC  
CAGAATTACAGTAGACCGATGGCTTGATTACAGTAAATAA

(SEQ. ID. NO. 192)

MEINVSRLRDLPLQVGVQPYRQVHAHSTGNPHSTVQNEADYHWRKDPGLGFFSHIVGNCGIMQVGPVDNGAWDVGGGWNAETY  
AAVELIESHSTKEEFMTDYRLYIELLRNLADEAGLPKTLDTGSLAGIKTHEYCTNNQPNHSDHVDYPYLAKEWISREQFKH  
DIENGLTIEGTWQKNDTGWYVHSDGSYPKDKFEKINGTWYFYFDSGYMLADRWRKHTDGNWYWFNDSGEMATGWKKIADKWY  
YFNEEGAMKTGWVKYKDTWYYLDAKEGAMVSNFIQSADGTWYYLKPDLADKPEFTVEPDGLITVKZ

**ID310** (SEQ. ID. NO. 205)

ATGGGCACAACAGGATTTACAATAATTGACTTAATTATCTTGATTGTTTATTTACTTGCGGTGTTGGTTGCAGGTATCTATTT  
CTCTAAAAAAGAGATGAAAGGAAAGAGTTCTTTAAAGGAGATGGTTTCGGTTCTTGATGTTACTTCGGTATCCATTTTGT  
CCACAATGCTCAGTCCGATTTCCTTCTTGGGACTCGCTGGTAGCTCTTATGCAGGTAGCTGGATTTTATGGTTTGTCTCAATTA  
GGGATGTTAGTAGCTATTCCACTGACAATTCGTTTATCTTACCTATCTTTGCACGGATAGACATCGATACGGCATATGATTA  
CTTGGATAAACGTTTAAATCTAAAGCACTTCGTATTATTTACGACACTCTTGTTTATTTATTTATCAATTGGGACGTATGTCTA  
TCATTATGTAACCTCCCTCAGTGGTTTATCAGTATTGACAGGAATTGACATCAATATTTTATTGATTATTTGATGGGTGTAGTT  
GCAATTGTTTATCTTATACTGGTGGTCTAAAAATCCGTATTATGGACAGACTTTATTCAAGGTGTGATTCTGATTAGTGGTGT



CGTTTACGTTTATTGTACTGATTGCTAATATTAAAGGTGGCTTTGGTGCAGTAGCAGAAACATTAGCAAACGGGAAATTCC  
 TTGCTGCAAATGAAAACTTTTCGATCCTAAGTTGCTTTCAAACCTCCATCTTTTAAATTGTGATGGGTTTCAGGCTTTACAATC  
 TTGCTTCTCTATGCTTTCATCTCAAGATTGGTTTCAACGTTTACTACAAACAAAAATATTAAAGAACTTAATAAGATGTTGTT  
 CACAAACGGTGTGTTTCTCACTTGCACCTGCAACAGTCTTTTACTGATTGGTACAGGCTTGTACGTTATCTATCAAGTACAAA  
 ATGCAGATAGTGCAGCTAGCAATATCCCTCAAGACCAAATCTTTATGTACTTTATTGCATACCAGTTACCAGTAGGTATCACA  
 GGTGTTGATCTTGGCAGCGATTATGTCAGCATCTCAATCAACTATTTCAACAGGTTTGAACCTCTGTTGCAACTTCATGGACATT  
 GGATATTCAAGATGTCATTCTTAAAAATATGTGAGACAATCGTCGTACGAAATTTGCACAATTCGTATCTCTAGCAGTAGGTT  
 TATTCTCAATTGGTGTGTTCCATTGTCATGGCTCACTCAGATCATTAATCTGCATACGAATGGTTCAATAGTTTCATGGGACTT  
 GTACTTGGTCTACTTGGTGGTGTATTTATCTTGGATTGTTTCTAAAAAAGCAAATAAACAAGGTGCTTATGCAGCGGTGAT  
 TGTATCAACCATCGTCATGGTATTTATTAATACTTCTCTCCCAACAGCTGTTAGCTACTGGGCATATTCAATTGATTTCAA  
 TCTCTGTATCAGTAGTTTCAGGTTATATGTATCTGTTCTTACTGGAAATAAGTATCTGCACCTAAATATACACGATTTCAT  
 GATATTACAGAAATTAAAGCGGATTCAAGTTGGGAAGTTCGTCACTAA

(SEQ. ID. NO. 193)

MGTTGFTIIDLIIILVYLLAVLVAGIYFSKKEMKGKEFFKGDGVSVPWYVTSVSIFATMLSPISFLGLAGSSYAGSWILWFAQL  
 GMVVAIPLTIRFILPIFARIDIDTAYDYLDKRFNSKALRIISALLFIYQLGRMSIIMYLPAGLSVLTGIDINILIIILMGVV  
 AIVSYTGGGLKSVLWDFIQGVILISGVVLLALFVLIANIKGFGGAVAETLANGKFLAANEKLPDNLNSNIFLIIVMGSGFTI  
 LSSYASSQDLVQRFTTQNIKKLNKMLFTNGVLSLATATVFLIIGTGLYVFYQVONADSAASNIPQDQIFMYFIAYQLPVGIT  
 GLILAAIYAASQSTISTGLNSVATSWTLDIQDVISKMSDNRRRTKIAQFVSLAVGLFSIGVSIVMAHSDIKSAYEWFNSFMGL  
 VLGLLGGVFIILGFVSKKANKQGAYAAALIVSTIVMVFIIKYFLPPTAVSYWAYSLSISVSVVSGYIVSVLTGNKVSAPKYTTIH  
 DITEIKADSSWEVRHZ

ID311 (SEQ. ID. NO. 206)

ATGAAAATTAATAAAAAATCTAGCAGGTTTCACTGGCAGTCCCTTGGCCTAAGTGTGTTGTTCTCTATGAGCTTGGTTCGTACCA  
 AGTGGTCAGGATAAGAAAAGAGTCTAATCGAGTTGCTTATATAGATGGTGATCAGGCTGGTCAAAGGCAGAAAACCTTGACAC  
 CAGATGAAGTCAGTAAGAGGGAGGGGATCAACGCCGAACAAATCGTCATCAAGATTACGGATCAAGGTATGTGACCTCTCAT  
 GGAGACCATTAATCTATATAATGGCAAGGTCCCTTATGATGCCATCATCAGTGAAGAGCTCCTCATGAAGATCCGAATTA  
 TCAGTTGAAGGATTTCAGATATTGTCATGAATCAAGGTGTTTATGTCTCATCAAGGTAGACGGAATACTATGTTTACCTTA  
 AGGATGCAGCTCATGCGGATAATATTCGGACAAAAGAAGAGATTAAACGTCAGAAGCAGGAACGCAGTCATAATCACGGGTCA  
 GGAGCTAACGATCATGTCAGTAGCTGCAGCCAGAGCCCAAGGACGCTATACAACGGATGATGGGTATATCTTCAATGCATCTGA  
 TATCATTGAGGACACGGGTGATGCTTATATCGTTTCTCACGGCGACCATTACCATTAATTCTTAAGATGAGTTATCAGCTA  
 CGGAGTTAGCTGCTGCAGAAAGCCTATTGGAATGGGAAGCAGGAGATCTGTCCTTCTCAAGTTCTAGTTATAATGCAAAATCCA  
 GCTCAACCAAGATTGTCAGAGAACCACAATCTGACTGTCACTCCAATTATCATCAAAATCAAGGGGAAAACATTTCAAGCCT  
 TTTACGTGAATTGTATGCTAAACCCCTTATCAGAACGCCATGTGGAATCTGATGGCCTTATTTTCGACCCAGCGCAAAATCACAA  
 GTCGAACCCGCCAGAGGTGATGCTGTCCTCATGGTAACCATTAACCATTTATCCCTTATGAACAAATGCTGAATTGGAAAAA  
 CGAATTGCTCGTATTATTTCCCTTCTGTTATCGTTCAAACCATTTGGGTACCAGATTCAAGACCAGAACCAAGTCCACAATC  
 GACTCCGGAACCTAGTCCAAGTCCGCAACCTGCACCAATCTCAACAGCTCCAGCAATCCAATTGATGAGAAATTTGGTCA  
 AAGAAGCTGTTTCAAGAGTAGGCGATGGTTATGCTTTAGGAGAATGGAGTTTCTCGTTATATCCGCAAGGATCTTTTCA  
 GCAGAAACAGCAGGCAATTTGATAGCAAACTGGCCAAGCAGGAAAGTTTATCTCATAAGCTAGGAGCTAAGAAAACCTGACCT  
 CCCATCTAGTGATCGAGAATTTTACAATAAGGCTTATGACTTACTAGCAAGAATTACCAAGATTTACTTGATAATAAAGGTC  
 GACAAGTTGATTTTGGAGCTTTGGATAACCTGTTGGAACGACTCAAGGATGTCCTCAAGTGATAAAGTCAAGTTAGTGGATGAT  
 ATTCTTGCCTTCTTAGCTCCGATTCTGTCATCCAGAAGCTTTAGGAAAAACCAATGCGCAAAATTACCTACACTGATGATGAGAT  
 TCAAGTAGCCAAGTTGGCAGGCAAGTACACAACAGAAGACGTTTATATCTTTGATCTCTGATATACCAAGTATGAGGGGG  
 ATGCCTATGTAACTCCACATATGACCCATAGCCACTGGATTAAAAAAGATAGTTTGTCTGAAGCTGAGAGAGCGGCAGCCAG  
 GCTTATGCTAAAGAGAAAGGTTTGAACCCCTCCTTCGACAGACCATCAGGATTACAGGAAATACAGGCAAGGATGAGGAGC  
 TATCTACAACCGCGTGAAAGCAGCTAAGAAGGTGCCACTTGATCGTATGCCTTACAATCTTCAATATACTGTAGAAGTCAAAA  
 ACGGTAGTTTAACTCATACCTCATTATGACCATTAACATAACATCAAATTTGAGTGGTTTGAACGAGGCTTTATGAGGACCT  
 AAGGGGTACTCTTCTGAGGATCTTTTGGCGACTGTCAAGTACTATGTCGAACATCCAAACGAACGCTCCGATTCAGATAATGG  
 TTTTGGTAACCTTAGCGACCATGTTTCAAGAAAACAAAATGGTCAAGCTGATACCAATCAAACGGAAGAAACCAAGCGAGGAGA  
 AACCTCAGACAGAAAACCTGAGGAAGAAACCCCTCGAGAAGAGAAACCGCAAAGCGAGAAACAGAGTCTCCAAAACCAACA  
 GAGGAACCAAGAAATCACCAGAGGAATCAGAAGAACCTCAGGTCGAGACTGAAAAGGTTGAAGAAAACTGAGAGAGGCTGA  
 AGATTTACTTTGAAAAATCCAGGATCCAAATATCAAGTCCAAATGCAAGAGAGACTCTCAGGATTAAAAAATAATTTACTAT  
 TTGGCACCCAGGACAACAATACTATTATGTCAGAAGCTGAAAAACTATTGGCTTTATTAAGGAGAGTAAGTAA

(SEQ. ID. NO. 194)

MKINKKYLAVSVAVLALSVCSYELGRHQAGQDKKESNRVAYIDGDAQGQKAENLTPDEVSKREGINAEQIVIKITDQGYVTS  
 GDHYHYNGKVPYDAIISELLMKDPNYQLKDSIDVNEIKGGYVIKVDGKYVYVYLDAAHADNIRTKKEIKRQKQERSHNHGS  
 GANDHAAVAAARAQRYTDDGYIFNASDIIEDTGDAYIVPHGDHYHYPKNELASELAAEAAYWNGKQGRSPSSSSYNAANP  
 AQRPLESENHNLTVPTIYHQNGENISSLLRELYAKPLSERHVESDGLIFDPAQITSRARGVAVPHGNHYHFIPIYEQMSELEK  
 RIARIIPLYRSNHWVPDSRPEQSPQSTPEPSPSPQAPNPQAPSNPIDKLVKEAVRKVGDGYVFEENGVSRYIPAKDLS  
 AETAAGIDSKLAKQESLSHLKLGAKKTDLPSSDREFYNKAYDLLARIHQDLLDNKGRQVDFEALDNLLERLKDVPSPDKVVLVDD  
 ILAFLAPIRHPERLGPNAQIITYDDEIQVAKLAGKYTTEDGYIPDPRDITSDEGDAYVTPHMTSHWIKKDSLSEAEERAAAQ  
 AYAKEKGLTPSTDHQSNGTEAKGAEAIYNRVKAARKVPLDRMPYNLQYTVVEVKNGLIIPHYDHYHNIKFEWFDEGLYEAP  
 KGYTLEDLLATVKYVVEHPNERPHSDNGFNGASDHVQRNKGQADTNQTEKPSSEKQTEKPEETPREKPPQSEKPSKPPT  
 EEPESPESEEPQVETEKVEEKLREAEDLLGKIQDPIIKSNAKETLTGLKNLLFGTQDNNTIMAEAEKLLALLKESKZ

ID312 (SEQ. ID. NO. 207)

ATGGAGGGATTGGTTAGAGTGCAATTTATGCTGTATTTGGCGATTACAAGCTATCTAACTTACTACGCTTATCTTCAACA  
 GCAAGTAAACAAATAGGGCTGACAAGGCAAAATAAGGCGAAAAAGGGGCATTGCTAACTACTCTTTGCTCCATAACATGAATA  
 AGCGTATTTTGAATATGGCGTAGCTATCCAGGTAATACAATACAAACCCAGCTAATGATGTCATCGTTCCACGCAACAGCAA  
 AAAGAAAAGGCTGCTGTCAAATACTTAGACAACAAAGAAATTAACACAGTTTCTTGATTATTTAGATGCTCTGGATCAATCAA  
 TTATAGAACTTATTGATGTTGTTCTGTATAAGACTTTATGGCCACTGTTGCGCTATTAGTAGGCTCTGGCTCTTGAAT  
 GGTCTGATATTGACCTAGAAAGCGGTGTTATCAGCATCAATAAGACACTAAACCGCTATCAGGAAATAAACTCACCTAAATCA  
 AGCGCTGGTTATCGTGATATACCAATAGACAAGGCCAATTAATTTACTGAAACAATACAAAAACCGTCAACAAATTCAGTC  
 TTGGAATTAGCGCATGAAACGTTGATTTCTGTATTTACGGGAAGAAATATGCTTATGCTTGAACCTACGCAACCGCC  
 TAAATAAGCATTTTGTGCTGCTGCTGAGTAACCTAAGTATCATTTTCAAGTTTCCGCCATACACATACTACTATGATGCTCTAT